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RICHARD H. EDMONDS,
Editor and General Manager.

THOMAS P. GRASTY,
General Staff Correspondent.

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Chief End of Politics.

No one is better qualified to discuss politics from a really practical standpoint than the successful business man. No one understands better than he the ill effects of subordinating country to party and industry and trade to political platforms. No one is more interested than he in the maintenance of healthy principles at the polls. One of the highest types of the successful business men of the country, the men who are guided by sound convictions and the loftiest patriotism in their political action is Hon. Abram S. Hewitt of New York. Time and again he has shown his zeal for the South and his real interest in its welfare. He is acquainted with its immense material resources, and his familiarity with conditions affecting it in one way and another fits him to make suggestions valuable for it. That fact is so generally recognized that the Manufacturers' Record feels justified in publishing a letter sent by Mr. Hewitt within the last few days to its editor. Mr. Hewitt writes:

I have read with very great satisfaction the editorial entitled "The Business of Politics" in your issue for the 2d of August. You have never, in the course of your long and admirable career as an editor, done a better piece of work for the public than the circulation of this article, which is not only sound from beginning to end, but is expressed in language which ought to be intelligible to every person who has any stake in the industry and prosperity of the country. It is curious how few people seem to comprehend the true nature of government. The object has been declared to be, in language known to all, the security of "life, liberty and the pursuit of happiness." Neither of these three great objects can be attained without private property. The liberty of the citizen, of which we hear much, consists mainly in his right to the fruits of his labor. Hence government is more largely concerned with the security of property than with any other object, except the establishment and maintenance of justice, because property without justice would cease to be of value to anyone. The chief business of politics in the last analysis is to secure good government, which means nothing more or less than the protection of the individual in his rights and property. Parties are not ends, but means. When they cease to secure good government they should be abandoned. The trouble in the South appears to be that in some quarters party supremacy is regarded as the ultimate aim of government. No greater mistake can be made. It is gratifying, therefore, to all lovers of good government when its principles are so clearly defined and so earnestly advocated as they are in the editorial which you have been good enough to send to me.

The Men Behind the Machines.

Chinese have modern weapons of war, and know how to use them. That fact stands forth clearly and indisputably amid the rumors and inventions sent from the Far East as news. It has set the Western nations to thinking, and has induced a movement for the limitation of the sales in certain directions of machine guns and munitions. For many years Western civilization, in addition to loading itself down with armaments for the maintenance of the peace of the world, has been placing in the hands of peoples catalogued in arbitrary custom as barbarous or uncivilized, up-to-date weapons and ammunition, has been building first-class vessels of offense and defense for them, and has been training their sons in the science of modern warfare on land and sea. Yet it is terribly shocked when it discovers in the first clash that barbarism has discarded tom-toms, firecrackers and pasteboard masks on the battle-field, and is able to use intelligently and effectively against its teachers disappearing long-range rifled guns, smokeless powder and electricity. More than one solemn lesson is to be learned in this awakening. Each one bears upon war, though not necessarily upon the war of steel missiles, smokeless powder and submarine terrors.

In old days most wars not connected with religious differences or natural race antagonism were born in ambitions of absolute rulers for territorial aggrandizement or for increased personal power. The rise of industrialism has changed this in some respects. Now and then rulers may agree upon conflicts in order to suppress unrest in their respective dominions; the reorganization of international finances may, perhaps, cause other wars, and lagging absolutism may still desire more land. But territorial gains have become of secondary importance. They will be merely incidents in the conflicts of the future which will arise in contests for commercial advancement as an outlet for reduplicating industrial energies. Already the leaders in this fray are appearing. They are the United States, Great Britain and Germany, with Russia not far behind potentially. In spite of the truce of treaties of trade among themselves, they are rivals entrenching themselves securely at home and fitting themselves with the weapons and vehicles for the greatest struggle in the history of the world, the struggle for control of the trade of nearly 500,000,000 persons. Their battle-fields will be three continents, Asia, Africa and South America, the lands of the yellows, the blacks and the mongrels. Their aims and their methods are plainly visible below the surface of developments in China. The ultimate results, the positions to be occupied by the nations when no new fields for commercial conquest remain, are faintly outlined in the situation of so-called barbarism turning the warlike weapons of civilization, so-called,

against that civilization. For commerce has come to mean, not merely the sale of manufactured goods in exchange for raw material or food stuffs, but the sale also of coal, iron and other elements of industry, together with the machinery to make manufactured goods. England depends upon other portions of the world for a large proportion of its food. American steel rails are equipping Russia to develop mineral and agricultural wealth that may compete with that of America. Side by side with cotton for Japan are sent machines for turning the fiber into fabrics. Reaping and threshing machines shipped to Argentina are bringing vast areas of land into rivalry with the wheat fields of the West. Effects of railroad development in Africa are an unknown quantity, but yet one to be considered by the long-heads. Europe is buying American coal and iron. Industrial civilization is absorbed in arming competition.

No better example of this may be had than a recent incident in Germany. Several months ago representatives of the leading Berlin houses building machinery paid a visit to the manufacturing houses of this country. They were treated generously, enjoyed every opportunity for study of machines and methods, and returned home with several hundred thousand dollars' worth of machine tools. Now the house was able to show the other day to American competitors an establishment better equipped with American machinery than many an American house of the same class, which, with the assistance of American experts, and with cheaper labor, are actively competing with Americans. The Germans have even improved upon some of the American machinery.

It really is not a great step from selling machinery to selling machinery to make machinery. The two kinds of sale may be expected to continue, and the United States ought to continue to reap enlarging benefits from them, but not indefinitely, unless a decided impetus be given to an industrial movement which has not had the hearty liberal support that is demanded by the future. The manufacturing capacity of this country has by no means reached its limit. For many years other countries will come to it for cotton, iron and coal, for machinery to open mines, extend railroads and fit workshops, and for the food to sustain the workers. There is a warning, though, in the wonderful strides made in American exports of manufactures, the kernel of which is in the steady increase in the number of machines for manufacturing other machinery, that cannot in reason be disregarded. It is the old truth in another form, what a man sows, that shall he also reap. If he sows machine guns, he will have to face the deadly missiles sent from machine guns. If he sows machines for making tools, he will have to quit making tools himself, unless he takes proper precautions. In this he may take a hint from civilized warfare.

Two battleships made upon the same lines by one firm, armed with guns of the same pattern and material, using the same kind of projectiles, fitted with twin boilers and manned by the same number of fighters meet in war. One goes to the bottom. The other is almost unscathed. The difference between them is solely a result of the difference between their respective crews. Success comes to the vessel which had superiority in the character of its men, the men who directed its movements, the men behind the guns and the men in the boiler-rooms.

The wonderful progress of the United States in manufacturing has been due largely to the intelligence of the men who directed manufacturing, and to those whose brain and muscle have been wrought into tools and implements. In the past it was often a matter of intelligence native to American soil and American air or consequent upon the better opportunities in this country for an expansion of intellectual vigor coming from abroad. This cannot continue if nothing be done to meet the adaptation abroad of American machines added to American intelligence to manufacturing enterprises. Americans must look in the future principally to the men behind their machines. They must ensure to the coming generations the best industrial equipment in the world if they wish to maintain the advantages they now enjoy. With millions of young men thoroughly trained to handle the most approved machinery and to direct the multitudinous details of vast industrial undertakings, the United States need fear nothing that man can do unto them. Look to the future men behind the machines.

Suicidal Campaign Methods.

The reason which usually dominates editorial action of the New York Sun seems to be suppressed whenever a Southern State seeks to overcome by law the pernicious effects of the most infamous politics that ever cursed any country. The recent successful struggle in North Carolina for relief from the incubus upon healthy political action has been eagerly made the occasion for a revival at this late day of the spirit in which malicious sectionalism placed the ballot in the hands of beings absolutely unfitted for citizenship, loaded the statute-books with revolutionary provisions and attempted the force bill. At the outset there may have been among a few honest fanatics a conviction that intelligence or material interest in government were not necessary qualifications for suffrage. These were but innocent tools in the hands of the craft and venom which sought through negro suffrage to injure the South. Their policy was so radical and so ruinous in its promise that within a few years many of their associates, inspired by love of country, were forced to abandon them. The shock given them in 1876 led them practically to throw the negro over-

board except for campaign purposes, but not before they had trained him in the worst school of politics.

Never since Hayes occupied the White House have the people who started the negro upon the path to ruin exerted themselves in his behalf except with the ulterior purpose of using him for their own ends. The reason why the negro was abandoned, except for political purposes, was the knowledge that the country as a whole was being seriously affected by persistent malevolence against the South. Malevolent injustice to the South could not continue after the sober second thought of the nation began to be exercised. It was only a question of time when the intelligence, love of fair play and sense of justice which characterize the American people at the North, as well as throughout the South, would dispel both prejudice and misconception, notwithstanding the bitterness of a few newspapers and politicians of the kind which are found in every section of the country. The Northern sense of justice has been growing stronger, and the knowledge that a blow at the South would hamper the well-being of the rest of the country has been widening as direct interest of the rest of the country in the South has enlarged.

In the meantime the South has been gradually lifting itself from chaos back to the political heights where action at the polls could mean something more than the mere maintenance of American civilization. The advance to that much-to-be-desired goal has been in direct proportion to the subsidence of criminal politics designed to array the negro against the only persons who are capable of helping his development upon lines to his advantage. It has been checked whenever deals at nominating conventions have been carried out in appointment of worthless creatures to public office against the protests of integrity and material interests.

Such politics was suicidal. It not only prevented the South from becoming divided upon sound lines at the polls, to the well-being of the whole country, but it also reacted upon thinking voters elsewhere. Such tactics as those laid down by the New York Sun and others who would again bring to the front some form of bloody-shirtism, however deftly concealed, is likely to lead men to ask why the statesmen who could look beyond the present to the future good of the country do not eliminate the negro question from politics, and thus enable the people of the South to vote as they desire, and not as forced by the fear of negro domination.

The Manufacturers' Record is ready to condemn any action on the part of President McKinley ignoring the point of view of the best elements at the South. We believe that despite the mistakes made in this respect by President McKinley, he too now sees the situation from the Southern standpoint, and is sincerely trying to give to the people of the South the opportunity of voting as their business interests demand without the necessity, as formerly, of disregarding every other consideration when confronted by the race question. We believe that the leading men of the country, North as well as South, republicans as well as democrats, recognize that the practical elimination of the negro as a negro from politics is essential to the best interests of the country and of the negro himself. On this question the Manufacturers' Record stands where it has always stood, for white supremacy first, last and all

the time; but thank God the time has come when the people of the South can think and vote as they please on national questions without endangering white supremacy.

In 1898, when the North Carolina campaign just concluded was in its preliminary stages, the Manufacturers' Record said:

In the bitter political contest now waging in North Carolina—a contest upon which hangs white supremacy or negro domination—it is gratifying to know that the thousands of white republicans from other States, who have of late years settled in North Carolina, are standing by the democrats. By the side of possible negro control all other questions, be they finance, tariff or expansion, sink into insignificance. Men can live and do business under protection or free trade, gold or silver, but the white man—the Anglo-Saxon—cannot live in peace and safety with his family in a country where negro domination is even threatened. The people who love the negro—while at a distance—soon learn to appreciate these facts whenever they are brought into close contact with him. The negro is a good workman in his place, and when in the minority he is generally tractable, well behaved and to some extent moral, but given any power or prominence he becomes his own worst enemy and the worst enemy of the community, knowing neither legal nor moral restraints. The Anglo-Saxon race cannot and it will not suffer the negro to rule. Theorists may prate to their hearts' content against this dogged determination, but their theories avail nothing. The white people of the South are going to control and rule that section, and any political party which seeks to uphold the negro as against the whites is knowingly doing the negro a great injustice, and is doing it for the purpose of creating trouble. It may be well that this issue is to be fought out in North Carolina. That grand old State, conservative and yet progressive, with a reputation well earned for the law-abiding qualities of its people and for the protection of life, is probably in a better position to make this final fight than any other State. Its established reputation will convince the world that its people are moved by some imminent peril, and its industrial progress has been so great that outsiders will be less influenced against the State by the heat of this contest than they might be as to some other States. Moreover, North Carolina has probably received more settlers from other States than any of its neighbors, and the fact that they have joined the local whites against the combination of negroes and those who are making tools of the negroes will prove to the world the righteousness of the white man's cause.

The conservatism, intelligence and progressiveness of the country await with some anxiety the outcome of the present campaign. For the past two years the Old North State has been at the mercy of reckless, if not criminal, demagogism, carried into power and supported by the ignorance and irresponsibility of negroes. These conditions have their prototype in the horrible days of reconstruction. Fortunately, the earlier ills have not been duplicated in all their intensity. The evil, however, has been sufficient to give the State a setback and to mass in opposition to a continuance of the curse the best people of all parties, democrats, republicans and populists alike. White men of all parties have determined to make impossible the continuance or extension of this evil. That they will do it no one who knows North Carolinian character doubts. In the solution of the problem it is to be hoped that no resort to the final defense of civilization may be necessary, and it should be remembered that the negro is less responsible for his own misdoings in this case than are the few white men, who, for the sake of power, are leading the negro against the whites. They are the ones upon whom the greatest blame should rest.

That is still the platform of the Manufacturers' Record, applicable to not only North Carolina, but to every State seeking to rid itself of a political curse.

Newport News, Va., is giving progressive illustration of the truth that one great industry successfully operated is a magnet for other industries. Around the great shipbuilding plant there have already grown other undertakings allied with it or dependent upon it. Announcement is now made of the probability that a million dollar steel plant is to be established

to manufacture the material used in the construction of vessels at the ship-yard, though Mr. C. P. Huntington telegraphs the Manufacturers' Record that he is not intending to build any steel works there in the near future. There is more than one reason for such a plant. Not only is steel needed at the ship-yard, but Newport News is one of the best locations in the country, perhaps, for a plant which will assist in the task of supplying the world with finished products of American mines. Fuel and ore from three or four States may readily be assembled there to meet ore brought from abroad to enter into the finer products, and from there distribution of the output either in this country or in Europe may be readily made.

The South and Corn Exports.

When Hon. Jerry Rusk of Wisconsin was Secretary of Agriculture he inaugurated a corn propaganda in Europe, sending agents to Berlin and other European centers to teach the value of corn for the food of man. Shops in which the corn was cooked up in various forms, mush, boiled and fried, corn pones, dodgers, griddle cakes, corn bread, Johnnycake and various other forms of food, were the distinguishing features of the work of teaching the foreigner the real value and deliciousness of corn. From that day to this the work has gone on, and the one really successful and popular American feature at this year's Paris Exposition is General Carr's corn-food exhibit, where the Parisians and their visiting friends are given free feeds of every sort of product of cornmeal in solid form.

Because of the great work done and of the merit of corn as a breadstuff, the great American product has won its way until our export of corn now ranks well up with wheat, and is bound, eventually, to take the place of wheat largely in our food exports.

The Southern States ought to take a leading part in corn exports. They can produce the corn hundreds of miles nearer to both Atlantic and Gulf ports than can the great surplus corn States of the West, which now do the export business.

And there is a still better reason, now that Europe begins to know the value of corn. The corn of the Southern States, and more particularly of those States east of the Mississippi, is greatly superior to the field corn of the West for bread-making. It is sweeter and makes a bread greatly better in every way. Europeans would soon appreciate the difference and pay a higher price for the Southern product.

With increased and general raising of corn it would not be long before the South would not only furnish itself with the pork and hog products, but would become a large exporter of provisions. And there is practically no limit to the provision trade abroad. Cattle-growing would increase also, and nowhere in the world are there natural cattle ranges superior to those of the Southern mountains. The Piedmont country on the east, the great valley that runs from the Susquehanna to the Coosa in the center and the valleys and coves along the western side of the Appalachian country in West Virginia, Kentucky, Tennessee and Alabama ought to raise numberless thousands of cattle. They can certainly be raised and transported to Eastern and foreign markets more cheaply in these States than in those which lie along and in the Rocky mountain ranges. It is a question only of winter food; that is to

say, of corn. Corn is as basic in agriculture as is iron in the arts. With surplus corn will come surplus hogs, cattle and sheep. The natural advantages of the South are very great for producing all of these supplies.

And now that the export trade and the home industrial development of the South have built up a sure, large and growing market for these commodities, it is of importance to the South generally that more attention should be paid to the corn crop. There is money in it for the producer, and it will broaden the base of all the arts in the South.

Dilemma for Demagogy.

The interview of Senator James K. Jones, chairman of the democratic national committee, republished in the last issue of the Manufacturers' Record from the New York Sun, must have been a bitter pill to the Southern newspapers which have so vigorously attacked the "roundlap" bale on the ground that it is a "trust." Referring to the discussion of his ownership of stock in the American Cotton Co., Senator Jones reviews his connection with the company, which came about through furnishing money for perfecting a patent for the "roundlap" bale, and then adds:

This company is in no sense a "trust," nor is it a company with inflated capital. It is simply a business organization with capital large enough to carry on successfully the enterprise in which it is engaged. It has developed rapidly. The roundlap presses which it makes have been established at 300 locations in the Southern States. These presses put up cotton at the gin plants in highly-compressed, self-containing bales, which dispense with bagging and ties, and, not needing to be recompressed, as all square bales intended for distant markets must be, are ready for through shipment to the mills in this country or to ports abroad without the necessity of resampling and with the minimum of expense. The profit which the company makes is not a charge upon the cotton, but is a part of the roundlap-bale savings—some \$2 or \$4 a bale—which are shared by cotton growers, cotton ginner, railroad, insurance and steamship companies and other interests engaged in the marketing of the South's staple crop.

The American Cotton Co. does not aim at a monopoly in the handling of roundlap bales, but ginner are free to sell in the open market at any time and to any buyer. It does, however, guarantee to every ginner who uses its presses that all properly-made roundlap bales shall sell for a substantial premium above the market price of square bales.

If to have been instrumental in the development of this great invention, and to own stock in a company which by its use introduces scientific methods of economy in the marketing of the American cotton crop, not only without cost to the farmer, but actually to his profit, is a just ground of criticism against me, I am greatly mistaken.

Senator Jones is to be highly commended for the perfect frankness with which he discusses the roundlap-baling system and his connection with it, brushing aside the bitter denunciations which have been heaped upon the company by those who have claimed that it is a "trust," and that a trust is the invention of the arch enemy of mankind himself. If the American Cotton Co. be a "trust," then Senator Jones, the great democratic leader, must be convicted not only of being interested in a trust, but of defending it. If it is not a "trust," then the papers of the South which have fought it on this ground owe to the American Cotton Co. and to Senator Jones the most ample apology.

Those people who have so bitterly fought the round-bale system may well pause and study the position of Senator Jones. His strong hold upon the people of the South and the record of his life guarantee that his interview will carry great weight. But what Senator Jones says in regard to the American

Cotton Co. should teach a lesson far broader in its significance than simply the interests of that one organization. Great as is the good which the development of this system will bring to the Southern cotton planters, Senator Jones' interview ought to be studied with reference to other companies. Many great business organizations, which, through the development of patents, or by the utilization of vast capital and great business capacity, have been persistently attacked with the same bitterness which has characterized the fight against the round bale. They have been misrepresented without rhyme or reason. Every influence for good which they represent has been decried, and only evil seen in their works. Even the Standard Oil Co. has not been more bitterly criticised as a "trust" than the American Cotton Co., and yet the chairman of the democratic committee, the man who stands before the public as practically the representative of the democratic party next to Mr. Bryan himself, justly denounces the fight against his company, claiming that it is not a trust, and that it is a blessing to the South, and justly claims "the right guaranteed by the Constitution of the United States to the use of patents." The Southern papers which are not influenced by the power of vested interests in compresses must be forced either to attack Senator Jones' position or else to give their heartiest commendation to the work of the company with which he is identified as of far-reaching value to the South. In doing this will they not stop long enough to ask themselves the question, If we have been so completely mistaken in regard to the American Cotton Co., and if that company, which we have so persistently attacked, is of such vast benefit to our section, is it not possible that we may have been mistaken in regard to other great business organizations which we have also been fighting?

In the case of the round bale the opposition and misrepresentation were created by the greed and selfishness of vested interests, who hoped to retain their hold upon the cotton trade without regard to the loss to the planters by denouncing and misrepresenting the more improved system. For a while these interests actually made the papers and the people believe that the safety of the South required the destruction of the round-bale system. Senator Jones has now effectually turned the weapons against them. In the case of other business organizations the politicians have been doing what vested interests did in the baling fight. In order to retain their hold upon office and its emoluments, direct and indirect, they have fought corporations and capital and endeavored to make the people and the press believe that the country's safety demanded the destruction of these terrible creatures, and so they raised a howl about "trusts" without knowing whether a "trust" existed or not. To some of them the American Cotton Co. was a horrible example of a "trust." Will they follow Senator Jones, who dares to be interested in such a corporation and to defend it?

WANTED—Operatives for New England Cotton Mills. High Wages, Short Hours. Fifty-eight to sixty hours' labor. Weavers, \$8 to \$10. Speeder Tenders, \$7 to \$9. Others in proportion. Apply to E. B., Postoffice Box 850, Providence, R. I.

The above advertisement has been appearing in Southern papers for a month or more. Is it genuine, and are Southern operatives wanted for New

England cotton mills, or is it simply a scheme intended to create dissatisfaction among Southern operatives by making them believe that higher wages and shorter hours can be secured in New England? Who does "E. B." represent? Southern spinners might investigate and see if this is genuine or if it is sectional industrial campaigning.

Construction or Destruction.

In reproducing from the Manufacturers' Record the article by Rev. Sam Jones on "trusts" the Southern Planter of Richmond, Va., says:

There is very much truth and sense in what the Rev. Sam Jones says. We have a much greater dread of the demagogue who goes about denouncing capitalists and capital than we have of the so-called "trusts." Capital is always a shy thing, and yet without it the wheels of progress cannot move around. Once start a scare, and it will take wings and fly away to where it finds greater quietude and more appreciation, and we shall be left stranded. The demagogue who is always pandering to the passions and feelings of the least instructed part of society is a thousand times more dangerous to the well-being of the people than all the trusts and combines in existence. Time and hard times will soon bring them to their level, but these only aggravate the danger of the demagogue.

Southern demagogues controlling a few daily and weekly periodicals here and there have been giving during the past two or three weeks brilliant illustrations of the truth of the Southern Planter's characterization of their methods. In spite of their rodomontade, however, the South is demonstrating more and more strongly its preference. As between capital and the demagogue there is no hesitation on the part of Southern intelligence. It knows that demagoguery is destructive and that capital is constructive.

Tiresome.

The South has furnished us with every sort of genius except the financial genius, and we now have him. He is John Skelton Williams, the brilliant young Virginian, who has organized into the Seaboard Air Line 2700 miles of railroad, traversing six of the Southeastern Atlantic States. Mr. Williams fills up the gap in Southern talent and achievement, and is the latest and most striking exemplar of the fact that the South is progressing. He is making a great epic poem of his work, lifting the South out of its misery and poverty, provincialism and prejudice, and has accomplished his task without Wall street or the use of watered stock.—Success.

It is such idiocy as this that makes the South tired. Skelton Williams deserves all the commendation that can be given him, but how absurd to say that the South produced no financial genius until Williams came to the front. The history of Southern up-building since the war is a history of financial geniuses who, despite overwhelming odds, have wrought marvelous results. As to "poverty, provincialism and prejudice," census reports show that the South is increasing in wealth more rapidly than New England or the Middle States; as to provincialism the South is far behind the East in that respect, and when it comes to prejudice, the South admits that it is prejudiced against such misrepresentation as Success puts forth—misrepresentation due to wilful desire to be untruthful or to stupidity.

The output in the Joplin (Mo.) district during the week ended August 4 was 8,449,030 pounds of zinc ore and 1,067,040 pounds of lead ore, valued in all at \$134,264.

The Corsicana, Texas, field has now 509 producing oil wells and eighteen gas wells.

RIVALING AMERICAN MAKES.

German Competition in Manufacturing Machine Tools.

[Special Cor. Manufacturers' Record.]

Berlin, Germany, July 23.

The visit of a large delegation of the American Society of Mechanical Engineers, accompanied by some members of the Society of Civil Engineers, to Berlin last week was an event not only of great pleasure to the gentlemen who took part in it, but also one of great instructiveness to them. It showed not only what American ingenuity is accomplishing upon German soil, but it opened up to the minds of the American visitors the prospect of a sharp competition with our own shops of American machinery in German hands.

The visit of the Americans here was brought about by an interesting combination of circumstances, which deserve to be told in this article, since they constitute an important part of my story. Ludwig Loewe & Co. of Berlin is a firm that has become well known to most American machinists during the past few years as the most extensive users of American machine tools in Germany, as well as the most extensive manufacturers of such machines in Germany. They stocked their splendid new factory with some \$200,000 worth of American machine tools two or three years ago, and are now turning out such tools themselves in large quantities and in all respects equal to the American product. The Loewe Company, before buying machine supplies for its new works, sent two of its highest experts to the United States to make a tour of observation and purchase. These two gentlemen—managing director Julius Pajeken and Herr Hamsphohn, a director of the affiliated electric company, the "Union"—went everywhere in the United States, where they were received with the most open-hearted generosity by the manufacturers, who knew that the purpose of the two travelers was to set up a rival for them in Germany. Director Pajeken, as he explained to me, informed our manufacturers that he was preparing to become their competitor, but everybody, he added, freely threw open their shops to him and explained fully the operations of all machinery in them.

Herr Isidor Loewe, the president of the Loewe Company, wanted to reciprocate this generosity, and he had a pardonable pride in wishing to show the Americans what he is doing with their own tools. Having been unable to place an exhibit at the Paris Exposition, owing to the fact of the recent completion of the new works of the company, Herr Loewe determined to invite the American engineers to come to Berlin from the Paris Exposition to see the company's model works. This invitation carried with it the most lavish hospitality. Not only was the party, numbering about fifty gentlemen and ladies, brought all the way from Paris on a special train, but they were entertained for four days at the best hotels of Berlin, were invited to two sumptuous banquets and were taken upon two delightful excursions in the vicinity of Berlin—all at the expense of Herr Loewe and his company. The hospitality in all its appointments was nothing less than princely, and all who took part in the entertainments had such a royal good time as makes a man happy for years afterwards. It was the good fortune of your correspondent to be invited by Herr Loewe to participate in all the entertainments of the past week.

I am not able to give here a complete list of the American visitors. The following were some of the more prominent ones: Charles H. Morgan, president of the American Society of Mechanical Engineers and president of the Morgan Con-

struction Co., Worcester, Mass.; G. W. Dickie, manager of the Union Iron Works, San Francisco, "builder of the famous Oregon," as he was introduced by the German toastmaster at one of the banquets; E. W. Rice, third vice-president of the General Electric Co., Schenectady, N. Y.; E. H. Parks, engineer of the Brown & Sharpe Manufacturing Co., Providence, R. I.; E. R. Archer and Peter F. Greenwood of the Tredegar Iron Works, Richmond, Va.; Oberlin Smith, president of the Tarracote Machine Co., Bridgeton, N. J.; Fred. R. Low, editor of "Power;" Francis H. Reed, mechanical engineer; Jesse Smith, mechanical engineer, all of New York; Herbert Lloyd of the Lloyd Storage Battery Co., Philadelphia, and others. There were also several English engineers with the party.

The inspection of the Loewe works took place on last Wednesday, and was naturally the chief topic of conversation among the visitors for the rest of their stay here. The Americans were astonished to find here in Berlin a more thoroughly American manufactory of machine tools than exists anywhere in the United States. This was an opinion that was expressed to me by a number of the visitors, including Mr. Morgan, Mr. Rice and Mr. Low. In saying a more thoroughly American manufactory I wish to be understood to mean that this company has gathered together more of our best machine tools than is to be found in any one establishment in the United States. It was the general testimony of the visiting mechanical engineers that Herr Pajeken had succeeded in finding the cream of our inventions in this line, had taken only the best machines, and had discarded many others that are still in use in our best shops. As Herr Pajeken said to me in describing his American trip: "We visited all kinds of shops, some good and some bad, but even in a bad shop we were often able to find some one good machine which we could adopt. On this principle our machinery was selected; we claim no credit for it except that of making the selection, for the machinery is mainly American, and what you see here is an American shop. We never disguise that fact, and our competitors often try to discredit us by saying our establishment is not a German but an American one."

In going through the Loewe Company's works this statement is fully verified. The mathematical exactness of the automatic machines, the noiseless precision with which they work convinces you at once that you are in a model American machine shop, and the labels on most of the machinery confirms that impression. But the experienced machinist notices some improvements that the methodical Germans have added. The proprietors have put up their machinery with the best possible arrangement of the single machines to the Hunt railway, two miles of which connect the different departments of the establishment with each other, and the different departments are so placed with respect to each other as to facilitate the transfer of the pieces of machinery through all the rooms with the least possible loss of time and labor. A list of the makers of the machinery in these works would constitute a good index to the best-known American manufacturers of machine tools. I shall not attempt to repeat that list. Outside of the machine tools proper, however, I may state that Americans had a large part in erecting and equipping the Loewe works. The buildings are modelled upon the latest style of American factory buildings, with the most spacious windows; the Sturtevant heating and ventilating system provides fresh air of comfortable tempera-

ture, whether in summer or winter, and the foundry house was built by the Berlin Bridge Co. of East Berlin, Conn. In the engine-room we noticed an immense Allis engine, whereby hangs a tale. This machine, we were told, was brought all the way from Wisconsin and put up ready for work at less cost than the German machines alongside of it; yet the Allis engine is a machine of 900 horse-power, while the German ones give only 500. The latter, however, are beautiful machines, and they excited the highest praise of the American experts for their solid construction and elegant finish. Perhaps they will outlast the American engine. The shops are run by electricity throughout.

In my conversations with the visiting Americans and in their speeches at the two banquets some opinions were expressed which will doubtless interest the readers of the Manufacturers' Record. President Morgan said to me: "I found some things in the Loewe works which they told me were American, but which were discoveries to me, and when I return home I shall introduce into my own shops some of the American machinery that I saw here for the first time. Good engineering makes the same difference in a shop that good generalship makes in an army. Germany has shown us in the Loewe works that it has the good generalship in industry. I have seen some good shops in the United States, but I do not recall one that provides more thoughtfully for the comfort of its men." In his speech at the banquet in the Zoological Garden President Morgan referred to the fact that the company has made its works so completely American that "we must do something to meet this American competition coming from Germany." Mr. G. W. Dickie gave me the following: "My impressions of German mechanical engineering as represented to us by the visit made to the very complete works of the Loewe Company—whose principal product is machine tools of medium size, largely the various types of milling machines—while not yet quite fixed, are of a very agreeable character. The arrangement of the works, the methods to secure not only accurate work but the continued repetition of it, combined with the just and liberal treatment of the workmen, and the remarkable attention paid not only to the cleanliness and order of the works, but also the personal cleanliness and comfort of everyone, not only astonished me, but impressed me with the fact that the German is not only to be met as a competitor, but must also be respected as a broadminded engineer, who is bound to be a great factor in coming problems of engineering, and also in social questions of the relations of employer and employee." In his speech at the banquet Mr. Dickie again emphasized the fact that this German company has done far more than American mills for the comfort of the men; these works showed him, he said, that "our friends here have provided not only the best of tools, the best of brains, but also the good heart. We Americans have missed the great soul of business; we must put more humanity into it."

Mr. E. R. Archer expressed himself as astonished at seeing what is accomplished here by machinery, and pointed out that the Germans here have made one improvement upon our machinery—they build heavier machines, which he considers a great advantage. He added: "It is the most perfect shop that I ever saw; it beats anything that we have. In only one respect did I notice that they are not equal to us—the cupolas in the foundry for melting the iron are old-fashioned." Mr. Fred. R. Low was equally enthusiastic in his praise of the Loewe works. "I have

never seen anything in the world like it," he said; "these men have sought out what there is in our American methods that would give them our advantages, plus their cheaper labor rates, and they have supplemented all this by putting in the best American experts."

As I mentioned before, this great German company does not disguise the fact that its splendid success is due chiefly to the American machinery that it has put into its shops. The festivities brought out from other German authorities the highest expressions of admiration for American mechanical ingenuity. At the banquet in Herr Loewe's house Professor Reuleaux emphasized the economic importance of the American system of machine building, the system of the interchangeability of parts and accuracy of finish, which makes it possible to supply at once any desired piece of a machine. At the same banquet Herr Kaempf, the vice-president of the Berlin Chamber of Commerce, spoke of the splendid qualities that distinguish the American people, "their practical sense, their keen intelligence, and their uncommon energy." He went on: "When a number of prominent German industrialists last year returned from a tour of observation in the United States they were filled with admiration for the progress in manufacturing that they had seen beyond the ocean. They were filled with astonishment at the practical eye of the Americans in laying out and arranging manufacturing plants, were filled with astonishment at the magnificent, nay the gigantic, scale on which technical and commercial problems are designed and executed. * * * I know that the industry of Berlin is inspired with the fixed determination to imitate and if possible excel its great teacher across the Atlantic."

That Germany is in earnest in this attempt to imitate and excel its American competitors is shown by the rapid increase of its imports of American machine tools. This increase dates from the Chicago Exposition, where the Germans first had an opportunity to make an exhaustive study of our machine tools. The fruits of their observation were immediate, and in the following year German statistics began to take note of the imports of these machines from the United States. The returns for 1894 showed imports of 1,000,000 marks' worth of them from America. By 1895 there was an increase to 2,500,000 marks, and in 1896 to 6,000,000. By last year the figures had jumped to 16,000,000 marks, and German estimates for 1900 place these imports at about 30,000,000 marks. These figures are an eloquent tribute to the worth of the Chicago Exposition to our manufacturers, and the whole history of our export trade affords perhaps no parallel to illustrate the power of American genius to conquer a place in the markets of the world.

WILLIAM C. DREHER.

Somerset's Club at Work.

[Special Cor. Manufacturers' Record.]
Somerset, Ky., August 4.

At the meeting of the Somerset Commercial Club last Thursday night several propositions were presented from parties in the East and North who desire to locate a tight-barrel factory and cooperage works at this place. Somerset is one of the largest stave markets in the South, and a Baltimore firm which has been shipping staves from this territory several years has decided to locate a factory at this place. Somerset and vicinity is the best timbered part of Kentucky, and woodworking manufacturers are being attracted here by the cheap timber and the many inducements which the Com-

mercial Club of this place are offering manufacturing plants.

Mr. L. E. Hunt, editor of the Somerset Journal, and J. P. Hornaday, an attorney of this city, were appointed a committee to visit the gas fields of Indiana and Ohio and secure data for the Commercial Club, to be used by them in locating factories in Somerset.

The Commercial Club and city council have agreed on a general ordinance exempting manufacturing plants from taxation for a period of five years, and have also agreed to improve the water protection of the city and extend it to all factories locating within the corporation limits.

Somerset is growing very rapidly, and is fast becoming prominent as a manufacturing city.

Gold-Mining in North Carolina.

By Joseph Hyde Pratt.

It is not the intention of this article to give descriptions of the gold mines of North Carolina, or of all the various occurrences, but to mention the condition of the gold-mining industry in this State and to describe in detail a few mines and gold properties that have been examined by the author during the past few weeks.

As is well known, North Carolina was one of the first gold-producing States of the Union, and the first specific find of gold was a 17-pound nugget, which was discovered at what is now the Reed mine, in Cabarrus county, in 1790. From this time up to the year 1879 North Carolina had produced about \$20,000,000 of gold. From 1879 to 1890 the production averaged about \$165,000 per year, but since then it has decreased very materially, some years being less than \$50,000. One of the natural causes of this is the working out of the placer deposits and the free-milling ores and the encountering of the sulphurets, which have only been able to be profitably worked during comparatively recent years. The discovery of the Western gold fields and later the civil war brought to a standstill exploiting for new deposits. Since then it has been for the most part the old mines that have been reopened and worked, many of which have under conservative management become good investments. There are undoubtedly many good gold properties in North Carolina that will make good investments, some of which have already been worked to a limited extent, while others are new. Judging from the placer deposits, which have been pretty thoroughly worked, it would not be expected that the original veins would carry a very large amount of gold or become bonanzas. These placers, compared with many of those of California and Colorado, would not be considered very rich, and also with the veins themselves, while there have never been any tremendously rich veins found, there are, however, some which have developed into remunerative mining properties. Many placer deposits which, on account of the low grade of the gravel, could not formerly be profitably worked, can now, with improved hydraulic processes, be made to pay, and even some of the old bottom placers may warrant a reworking if on a large scale. New methods in the treating of low-grade, free-milling and sulphurets ores has made it possible to work profitably many such deposits that formerly had to be abandoned.

It can be said, then, that the most feasible gold-mining propositions in the South are these larger deposits of low-grade ores. These must be of sufficient extent to warrant the establishment of a regular plant for mining, milling and reduction of the ores. In some cases there

may be a number of these low-grade ore deposits that are lying in the near vicinity of each other, and where it would be impracticable to work these as separate mines, it will often be found profitable if they are worked under one management as one mine. With these low-grade ores it is a question of quantity, provided they do not fall below a certain limit in assay for gold, that determines the value of the deposit. The variety of the ore deposits in North Carolina makes necessary a thorough study of each ore to determine the most practicable method for treating the ore.

There are many facilities in favor of mining operations in North Carolina—cheap labor, although skilled labor commands about the same price as in other States of the eastern part of the United States; climatic conditions which permit nearly continuous mining throughout the year; low cost of timber for lumber and cordwood; proximity to railroads and also centers of mining supplies, as Salisbury and Charlotte, and the abundance of water-power that is available at many of the mining localities, which would make practicable the installation of electric-power plants. As is seen from the above, there are many favorable features for gold mining in North Carolina, but it must be carried on as a business proposition under a conservative management. Many of the failures in gold mining in North Carolina can be directly traced to overcapitalization and poor management. And then again, properties that originally were obtained at a reasonable figure are transferred to the stock company at an exorbitant price. As renewed activity in gold mining in North Carolina has begun, it is to be hoped that it will all be along legitimate lines, and that speculative gold mining (especially that on paper) has had its day in this State.

As illustrating some of the points mentioned above, a few mining properties are here described that were recently visited by the author.

The Buck Property.

This property is situated in Montgomery county, seven miles west from Troy, the county-seat, which is also the nearest railroad point. There are 400 acres in this tract, of which about 150 are under cultivation and 100 are well timbered. Near the southern end of the property Buck or Gold mountain rises to a height of nearly 200 feet above the surrounding country. The Uwharrie river flows near the southwest side of the mountain, and would furnish an unlimited water supply. Cutting across the property in a northeast-southwest direction are two quartz veins, each twenty-five to fifty feet wide. On following these veins they are found to penetrate into Buck mountain. Below these veins there are at least 150 to 200 acres that will constitute placer deposits. Crossing these deposits are three small streams. The only work that has been done here was about forty years ago on the placer deposits. Owing to the limited amount of water (the three streams referred to above), the work was not extensive, and attracted but little attention then, and consequently none after the work ceased. Thus nothing of importance was attached to the quartz veins. With the improved hydraulic processes and the proximity of the Uwharrie river, there is no obstacle to the profitable mining of these deposits.

On examining the placer deposits over thirty tests were made by panning the gravels and soil at various points, and in every pan gold from two to three colors to nearly a pennyweight was found. All the gold that was found was rough, and showed no or but little abrasion, which is evidence that it had not been transported

very far. Just below the quartz vein, and where the stream cuts across them, many fragments of quartz were picked up that carried free gold. This all indicates that the quartz veins are the origin of the gold in the placers. As no sulphurets were observed, the quartz veins would produce free-milling ore for some time to come.

This property will represent one that is new and undeveloped, and has every indication of becoming a very profitable investment.

The Shears Gold Mine.

This mine is located in Randolph county, twenty miles from Ashboro, the county-seat, which is on a branch of the Southern Railroad. New London, on the same system, is the nearest railroad point, distant twelve miles. Connected with this mine there are about 150 acres of land, considerable of which is heavily timbered, whose eastern boundary is the Uwharrie river, which would furnish an unlimited water supply. There are three well-defined veins, approximately parallel with each other, crossing the property diagonally with a strike N. 20° E. These are known as the Mann, Steed and Big veins.

The country rocks are argillaceous slates, both of soft and silicified types, through which occur the veins or belts of slate that are impregnated with free gold and some sulphurets, together with quartz stringers. The ore for the most part is free-milling.

The Mann vein, which is about eight feet wide, has been opened by means of a shaft sixty feet deep, with drifts running northeast and southwest on the course of the vein for a distance of thirty feet and eighteen feet, respectively, the ore being stoped out nearly to the surface. The ore at the present depth is nearly all free-milling. In testing the ore from the shaft and drift 509 tons were crushed and milled, yielding 170 ounces of gold, showing a value of \$5 to \$6 per ton.

The Steed vein is well defined, and is fully seventy-five feet wide, and can be followed for a distance of over 800 feet across the property. The gold is disseminated in fine particles throughout the entire width of the vein, and is a free-milling ore. It has been opened by means of a cut thirty feet deep and nearly seventy-five feet square. In the early history of this mine the farmers were accustomed, when other work was slack, to drive a team into this cut, load up with the ore and haul it to the nearest stamp mill. In determining the value of this ore 1284 tons of ore were crushed and milled, yielding 381.3 ounces of gold, the actual value per ton being \$4.25. (Both these mill tests were made by H. B. Tilden, M. E., of Charlotte, N. C.) The ore can be obtained for some time by open-cut work.

The Big vein, which has not been developed, shows an outcrop nearly 100 feet wide, and is similar in appearance to the other two. The improvements on the property are a well-equipped 10-stamp mill, thirty horse-power boiler and engine, blacksmith shop, etc. The ore is low-grade, but the ease with which it can be mined and milled and its exceeding great quantity makes the property a valuable one. The discontinuance of work on this property was caused through over-capitalization of the company and mismanagement.

The Boylston Mine.

This is one of the very few gold mines that has been located to the west of the Blue Ridge. The property is in Henderson county, on the southern slope of Forge mountain, about twelve miles west of Hendersonville, the county-seat, and three miles north from the Transylvania Railroad at Boylston postoffice.

The country rocks are fine-grained mica and hornblende, schists and gneisses. Cutting through these there are four parallel quartz veins, one above the other, striking N. 25° to 30° E. and dipping 30° to 60° N. W. toward the center of the mountain, the strike and dip nearly coinciding with that of the schists. More or less feldspar is encountered in one of the veins, which is due to its intersection in places with a granitic dike. The veins vary in width from five inches to fifteen feet, with perhaps an average width of about six feet, and have been followed for a distance of half a mile. The ore for the most part is free-milling, but carries occasional pockets of sulphurets, pyrite and some chalcoppyrite. The gold is all in a very finely divided state, and this is probably one of the causes of the failure of former companies to work this ore profitably. With the improved machinery and methods there should be but little difficulty in saving the gold. This mine has recently been purchased by the Canada Southern Mines (Limited) Co., whose home office is at Cookshire, P. Q., and whose president is R. H. Pope, M. P. The company has begun extensive work at the mine, principally on vein No. 2, which it has opened up for a distance of nearly 1000 feet by means of open cuts and tunnels. The ore as it is taken from the mine is at present dumped in piles near the mouth of the tunnel or cut ready to be carried to the mill when it is completed. The sulphurets are separated from the free-milling ores. A fully-equipped and up-to-date crushing plant and 30-stamp mill is being erected near the foot of Forge mountain, and is so arranged that the ore is always handled automatically. The plant was designed by Fraser & Chalmers of Chicago. A short distance above the mill a tunnel is being driven into the mountain to intercept vein No. 2. It has been calculated that this tunnel will have to be 700 feet long, of which 250 feet are already completed. It is expected that a sufficient water supply can be obtained by collecting the water from all the small streams in the vicinity and conducting them by means of a ditch to the mill. A ditch nearly a mile long has been built for this purpose. Assays are constantly made by the company's assayer, and the average of 370 assays was \$5.70 per ton. At the present rate of work there will be 10,000 tons of ore on the dumps by the first of September, when it is expected the mill will be completed. W. S. Wright and F. L. Plaisance are the superintendents in charge of the work, and they employ sixty hands.

A KENTUCKY MINERAL BELT.

Activity in Livingston and Crittenden Counties.

[Special Cor. Manufacturers' Record.]
Marion, Ky., July 26.

Five strong companies are mining, prospecting and erecting mining machinery in this mineral belt, comprising Crittenden and Livingston counties. Some of these companies have been at work two years, others were recently organized. In addition to these, individuals are prospecting, leases and options are being taken on mineral lands, and the scene throughout the belt is one of general activity.

A large area of the land is covered already, but there are still hundreds of acres yet untraversed by the prospector and still in the hands of the original owners. It is estimated that there are 500 men at work in all phases of the business, though mining is still in the initiative. New men are coming in to investigate, and while there is no abnormal rush, representatives of capital and mining enterprise from commercial centers are finding their way here every week.

For two years fluor-spar has been mined and shipped, and at this time about 100 tons of this article is taken from the earth, and the shipments are about equal to the production. The quantity of fluor-spar is simply inexhaustible, and it is of the purest quality. The spar, lead and zinc are found in true fissure veins. The spar is next to the "grass," and as the mines are carried deeper lead and zinc come into the veins and the spar gradually grows less. The veins are from six to thirty feet wide, and at a depth of 130 feet—the greatest yet reached—assays show from 55 to 60 per cent. of zinc.

The State geological survey shows ten of these veins crossing Crittenden county. Only a portion of them have been tapped, and these at only a few points. Old miners are astonished at the richness of the veins, and as the three minerals, lead, zinc and spar fill the veins, with practically no other matter in the way, all of the output is marketable.

The separation of the lead, zinc and spar has been a problem until recently, and this retarded matters. Now the problem has been solved by the use of dry air jigs, and machinery is being erected for this purpose. One company is erecting a large and expensive plant, and as soon as completed, which will be in a very short time, the zinc and lead ores will be worked, and when this is successfully done deeper mining for these will be commenced in earnest, and it is believed by men acquainted with mining of this character that this district will excel anything in the United States.

TO GAIN SOUTHERN TRADE.

Western Machinery Manufacturers Considering Plans.

[Special Cor. Manufacturers' Record.]
Chicago, Ill., August 6.

The question with many Western manufacturers who have only recently begun to cultivate the Southern field in the machinery and supply line is "How must we proceed to secure the trade?" My answer has almost invariably been "Standardize your goods and appoint agencies." Many firms have depended on circularizing as a means of securing good live orders, and have been utterly disappointed, as a matter of course. Good business will not come from circulars at such long range, neither will it from sixteen dollars' worth of trade-paper advertising. I find by experience that the Chicago and Western houses which first began to make their goods known to Southern consumers through the Manufacturers' Record and other judicious advertising have followed up the demand as it was gradually created by placing their products in the hands of Southern supply firms or sending traveling representatives over the territory direct. Of course, the latter measure is the best, but cannot be accomplished by every manufacturer, especially a producer of small specialties which sell at a low price to isolated users, but goods of a practical class for nearly all industrial purposes when placed on sale by the supply houses located at the principal distributing centers should command ready sale at satisfactory prices, providing, however, that the goods have been made sufficiently well known beforehand. The older Western firms which now enjoy a profitable Southern business appreciate the unyielding efforts that they had to put forth in standardizing their products in the Southern market before they saw any profits, and now many of the younger houses are realizing that they need but follow the example of their superiors to be comparatively successful. To the most enterprising firms here there are no admitted superiors, consequently it will not be long before a number of new Chi-

cago houses will be cutting timber for the South's trade.

As conclusive evidence of the demand now being made upon the Western market by machinery users, contractors and others, a Chicago representative of a Southern road which runs deep into the old Southeast told me this week of a large number of consignments of freight that he had been looking after from here for his line, including heavy engines from Milwaukee, shafting and power-transmission machinery from Chicago, a large cargo of pulleys from Indiana and other supplies assembled in contiguous territory consigned to different points in Virginia and the Carolinas for use in cotton mills and other factories, to say nothing of the freight in vehicles and agricultural implements. The road referred to is the Seaboard Air Line, represented here by C. H. Chappell, Jr., freight and passenger agent for the Northwest. His work represents conclusively the dexterity with which the commercial interests of the railroads are followed up in profitable territory—in this field in particular—in which I am glad to know that the Seaboard Air Line forms no exception. One-half probably never knows what the other half is doing. Mr. Chappell goes after game the same as a house salesman after an order, into an adjoining State if necessary.

Chicago is one of the most up-to-date cities in the world in the manufacture of modern passenger and freight elevators, with steam, hydraulic and electric power. The output of all producers is now composed of steel and iron, with the best improved safety appliances and power equipment, from the largest to the smallest type required in any part of the country.

With the development of electric power has come some novel features in elevator construction. A Chicago firm (the Burdett-Roundtree Manufacturing Co.) is putting on the market an automatic electric house elevator which is operated entirely by push buttons in place of the ordinary lever control in the car, for use in private residences, apartment buildings and in other cases where no operator or conductor is employed. A push button is placed on the enclosure work on each floor of the elevator shaft, with a corresponding number of push buttons placed in the car, each of the latter representing a floor at which the car stops. Pressure of the button on any floor will bring the car to that particular floor, where it will automatically stop, while pressure of any button in the car will take the car to the corresponding floor. Extra precaution insures against accident, each door of the hatchway being provided with an automatic latch, which prevents the opening of the door unless the car is at that particular landing. It is necessary for all the doors to be closed before the car can possibly be started, which feature enables a child to run it with safety.

Another unique Chicago invention in elevator service is being put on the market by the Elevator Supply & Repair Co., known as the Armstrong electric signals for passenger elevators, combined with which is a floor indicator. The latter enables the passenger on any floor to signal the conductor, going either up or down, by pushing an upper or lower button. The signal tells the operator that at a certain floor above or below his car one or more passengers stand waiting, which enables him to bring the elevator to a stop without running by, avoiding the loss of time and strain to the machine caused by quick reversals. By the appearance of the signal in the form of a brilliant incandescent lamp the waiting passenger is notified in ample time and

has moved to the right hatchway prepared to step into the approaching car without delay. The lamps in both the lantern and in the car fixture remain illuminated until the car has left the floor from which the signal was given. The entire arrangement is automatic, allowing the operator the free use of hands and faculties for the control of the car and the safety of his passengers. This system is now being installed in the Equitable and the Calvert Buildings in Baltimore. It is in extensive use in Chicago and New York.

Chicago has one of, if not the oldest, spring factories in the West, that of the Wm. D. Gibson Co., manufacturer of crucible cast-steel springs for various purposes. The company makes the manufacture of springs a specialty, and its products are in use all over the world, in the finest ocean steamers, and in both American and foreign-made machinery. An increased demand from the electrical trades, with extensive calls from patent experts and others for high-grade springs made it necessary for the company to increase its works during the latter part of last year by the addition of new machinery, which gives it now the most thoroughly-equipped plant in the West for handling orders of any size for any sized springs.

The use of perforated metal has continued to broaden with industrial expansion until it now enters into a very wide field of usefulness. The endless improvements that have been made in designs and quality keep equal pace with the increased demand. In perforated metals for all purposes the Robt. Aitchison Perforated Metal Co. of Chicago is fully prepared to supply the trade promptly in satisfactory quantities. The company has been in business for more than twenty years, and has many old patrons in the South. It reports a very satisfactory summer business, its orders for July amounting to more than those for same month last year.

C. T. Boynton, formerly general sales agent, and one of the directors of the American Steel & Wire Co., has been elected president of the Shelby Steel Tube Co., succeeding W. E. Miller, a director who had been holding the office temporarily. Mr. Boynton is succeeded in the American Steel & Wire Co. by C. E. Lott, formerly district sales agent.

H.

RESUMING ACTIVITY.

Significant Movements in the Birmingham District.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., August 7.

The old saying "only the unexpected happens" had an inning the past week when the committee from the coal miners employed by the Tennessee Company made its monthly examination of the books and found that during the month of July the average selling price of iron was below \$11, and because of that, according to contract, the wages for mining coal were reduced two and one-half cents per ton. This is the first reduction of wages since the big advance in iron commenced. If the average price for July was below \$11, then the parity price of gray forge was under \$10, or not a bit over \$10. Allowing a difference of fifty cents between grades, and the inference is indisputable that some mighty cheap iron has been placed during the depression. Your correspondent was never able to get a quotation below a basis of \$12.50 for No. 2 foundry, though at times he was suspicious of the figures given. During the past week there were sales on the basis of \$12.50 for No. 2 foundry; also on the basis of \$12.20 and on a \$12 basis.

If any sold below \$12 the secret is well kept. At the prices quoted the sales were insignificant. The largest single order that came to the knowledge of your correspondent was for 100 tons. One of the leading officials of a leading interest stated that five cars would cover their new business for the week. This illustrates the trifling character of the business. The buying wave that has of late pervaded the West has not yet reached here, but sellers are on "the tip-toe of expectation" concerning it, and its probable arrival in "due course of time" has materially stiffened the backbones of sellers and exalted their hopes. There is a good deal of iron stacked up in furnace yards which was sold, but when delivery time came it was thrown back on their hands. The buyers couldn't afford to take it on a declining market, and the furnaces have to bear the loss.

There was a little export business worked the past week, but it was insignificant. The shipments have been fine. The Tennessee Company has just concluded a shipment of 25,000 tons sold last April, and the Sloss Company is now moving a similar amount sold at same time. It comes from a reliable source that 600 cars have been ordered of one railroad to move export iron.

There is a general resumption of activity now. The steel mill has started with three furnaces in blast, and its blooming mill at work. Capacity will be increased as demand warrants. The bar, rod and wire-nail mill has also started up, and it will gradually increase its capacity until it is running full in all departments. The plow works at Ensley are so near ready for business that one can safely say they will begin operations next week, possibly this week. The new stack of the Tennessee Company at Ensley only awaits track connections before lighting its fire. Everything will be in readiness next week.

New coal mines are being opened, principally by local capital. The Stout's Mountain mines are among the new mines, and for them it is claimed that the product is equal to that of the celebrated Montevallo mines. The seams of coal are unusually thick. Then the Jefferson mines, near Jasper, will be reopened by the Pearson Company, and the Moss Company will open additional mines in Shelby county.

The Bessemer Rolling Mills have resumed operations with a force of 700 operatives, and with every prospect of continuous service.

Repairs and additions to the Birmingham Rolling Mills are being pushed, and as soon as completed they will begin operations. The nature of the repairs is such that the mills have been changed from their antiquated equipment and completely modernized. At Thomas they are letting no grass grow under their feet, but are pushing with every energy the completion of their furnace stack and their coke ovens.

In fact, there never has been in the history of Birmingham a year of greater activity. The bank clearings are greater than last year, as also is the amount of building permits. The amount of capital invested in the district in various industrial enterprises during the year is estimated as high as \$11,000,000. But that looks a little steep, and your correspondent is willing to put it at \$10,000,000 as being safe and conservative. In Birmingham 500 houses have been erected during the year, and very few of them are of a flimsy character, while at Ensley and Pratt City they number 500 and 300, respectively. Over thirty new industrial enterprises have been started, and seventy-five new corporations have been incorporated. The pay-rolls cover monthly

\$2,000,000, and a working army of 40,000 men draw it and spend it here.

Mr. Sol. Haas, the president of the Sloss Company, returned from his leave of absence in such a state of health that he has tendered his resignation. He said to the writer that it meant his final retirement from the iron trade, and that for some months yet he would confine himself to seeking rest and health. The employees of the company testified their regard by presentation of costly presents. At the meeting of the board of directors in New York on the 9th inst. his successor will probably be named. J. M. K.

Eastern Iron Markets.

[Special Cor. Manufacturers' Record.] Philadelphia, Pa., August 8.

The iron and steel news today is that more business is being done among a number of small buyers who have waited as long as possible for prices to get down to bed-rock. There has been scarcely any fluctuation for a week in small lots. Big consumers are doing nothing in this market, but we understand other markets are having a big time in taking heavy orders. The only thing we can do a big business in is steel billets, but consumers here, acting under the best advice they can obtain, are refusing to close for large quantities; in fact, people in Eastern Pennsylvania are waiting for other markets to move. Foundry and forge iron is dull of sale. If the Republic Iron & Steel Co. carries out its threat of not paying what the workmen's schedule calls for it will certainly help the Eastern bar mills, which are independent of the trust and of wages schedules. The market is rather bare of iron bars; price, 1.25 to 1.30. The big cut in steel bars has not affected our retail trade. Millmen have bought some forge this week, but there will be no such wild buying as there was last year.

The skelp mills East are all going, so far as known. The plate mills are taking business, mostly small orders. The shipyard demand will be quite a feature. The business of those who work up iron and steel for export promises well.

There is a quietness just now in structural steel, but the big plants were never as busy. Local managers say they do not recall the time when as much work in bridge construction was in sight as at present. If the steel-rail people had a little of the same reasonableness as to prices there would be almost a boom. But as they get all the business they can do, what need they care. The present estimated requirements run somewhere from 1,000,000 to 2,000,000 tons, but it can be put down as certain that there will be no business done at present prices beyond what is absolutely necessary to keep up.

The old-rail market is temporarily dead, because holders are asking exorbitant prices. The trade recognizes that general conditions are very vigorous, and the steel industry, therefore, is liable to receive a sudden stimulus.

STEEL AT NEWPORT NEWS.

A Million-Dollar Plant There a Future Probability.

Mr. C. P. Huntington spent Saturday at Newport News, Va., and in an interview with the Press of that city announced the probability of a steel plant among the additions to the industries there. He said:

"I am down here simply to look over the plant and see what progress is being made on our ships. A sort of regular trip, you know. I like Newport News, and always look forward to my visits here with a certain degree of pleasure, though my time is pretty well taken up with matters of business. I was here in

1837, and the city today is no more than what I expected of and predicted for it. Here you have the natural location. It is in the right place, and is sure to forge ahead to the place it deserves. You have enterprising people here, too, and they have aided materially in making the city what it is. Keep on with this sort of enterprise, I say, and the rest will come, for, as I stated before, Newport News is in the right place."

"Has the ship-yard any new ship contracts in sight?" queried the newspaper man.

"Well, to that I can say that it has and it has not. Some want us to bid on ships, and we may do so. At this time there is nothing to give out. Of course, a lot of government contracts will be let very soon, but there is not much money in them. They serve, however, to keep the men busy, and we shall bid on some of the ships. In 1894 I lost more than \$100,000 on the first two government ships we built, but, of course, I bid low on them purposely and kept the men at work."

"Will you submit bids on all fourteen of the new warships to be let out?"

"Hardly. I would like to build the five battleships—that is the number, I believe. We may bid on the six armored cruisers, but our plans are not definitely laid yet, and I do not care to say too much concerning them. You see I can take here as many contracts as I want, as I can extend the yard to the north without any difficulty and keep on building cranes if necessary."

"What improvements, if any, are contemplated for the yard, in addition to those now under way?"

"None to speak of. I shall build another steel ship crane out there above the new ones recently completed. That will give us facilities for building two more large ships in addition to those we now have. The big dry-dock is a very important improvement, and that will be ready by December at the latest. There are always times when shipbuilders feel the need of more than one dry-dock, and when the new basin is completed we will be better equipped in this respect than any other yard. Our present dock is large enough to accommodate the largest of the merchant ships built in this country and the large majority of ships in the foreign trade, but they are now building 700-foot ships abroad, and we must have a dock large enough to receive them. This will be the only dock, in fact, that can accommodate these leviathans. While I cannot say that we will always have sufficient repair and new work to keep both docks busy, we are continually feeling the need of another basin, and there will be considerable activity around both docks after December."

"Does the Pacific Mail contemplate building any more ships very soon?"

"Well, hardly at this time. You know we purchased three large ships a short time back, and we are now having two palatial vessels built here for our China trade. I made a trip through the yard this morning, noting the progress on the new dock and the ships under construction. The work on the Pacific Mail liners has been very satisfactory, and in from six to nine months one of them should be in service."

"Are there any new developments in the steel-plant project?"

"I shall build a steel plant, but I will not say when just now—not that I cannot, but that I do not care to. I have selected the site, and it will be on the land opposite the ship-yard. The plant will cost \$1,000,000 or more, and will probably be built on either side of the tracks leading from the Chesapeake & Ohio into the yard."

"What about that armor-plate plant?"

It was reported, you know, that you would build a plant for the manufacture of warship armor in conjunction with a steel mill."

"Why should I want to build an armor-plate plant? A shipbuilder has no business making armor. If he did embark in that he would not find a market for it outside of his own plant, as the other yards would not use it. It was reported some time ago that Carnegie intended to build a ship-yard. He has no idea of doing so, and his reasons are purely business ones. The shipbuilders have enough to do to turn out the ships."

"It is reported that excavating will commence shortly on the extensive tract above the ship-yard, which you purchased some time ago. Have you anything in view for that property?"

"There is nothing in it."

"What has been done about the much-talked-of-cotton mill?"

"Well, I am afraid nothing much has been done. If it is built I will not build it, although I may have an interest in the enterprise. Some gentlemen came to me about a cotton mill and I agreed to co-operate with them, but I have not heard that any positive steps have been taken yet. It would be impossible to say now where such a mill would be located."

"How do you regard the shipbuilding outlook in general?"

"Very favorably. The prospect is good for unprecedented activity in shipbuilding. We have not the merchant marine we should have, and the day must come when we will take rank as one of the leading nations in this respect. To do this we must build ships. Then, too, our navy is small yet, and must be increased. The American ship-yards should be kept busy for some time to come."

"Do you know of any industrial enterprises that are heading this way in which you are not interested?"

"No, but they are bound to come in time. This is a natural site for industrial as well as commercial development. The capitalists recognize this, and when they are ready to act they will not be slow to develop their plans. Of all the places in the world, I know of none more suitable for industries of any kind than Newport News. It is where coal can be obtained cheaply, and where both rail and water transportation is convenient."

In closing the interview Mr. Huntington said that about \$2,000,000 is being spent at Galveston, Texas, building terminals and warehouses for the Southern Pacific Railway, in which he is largely interested.

GREAT IRON AND COAL PROPERTY.

Basis of Extensive Productive Operations in Alabama.

Prior to the organization of the Alabama Consolidated Coal & Iron Co. the various coal and iron properties were fully examined and reported on by leading experts. Messrs. Ricketts & Banks of New York made the report on the Standard Coal Co.; Mr. J. P. Witherow of Pittsburgh, on the Clifton, Gadsden and Mary Pratt iron properties, and Messrs. Hill & Howard of Baltimore, on the Gate City property. It was on the basis of their exhaustive and exceedingly strong reports that these properties were purchased.

But now that the enlargement and practical rebuilding of the furnaces and the opening of new ore and coal mines have been about completed in accordance with the original plans, it was lately decided to secure another expert of national reputation, who had never investigated any of these properties, to make a general examination of all of them, and of the expenditures made in their development.

For this work Mr. Milton H. Smith, president of the Louisville & Nashville Railroad, strongly endorsed Prof. John R. Procter, for many years State geologist of Kentucky, and now president of the United States civil service commission. Mr. Procter's name was submitted to Hon. Abram S. Hewitt, one of the greatest ironmasters of the world, who is a director in the Alabama Consolidated Coal & Iron Co. Mr. Hewitt in reply wrote: "I do not know where you could find anyone as competent as he is to examine and report upon the mines of the company, as they are all in the newer (geological) formations, of which he has better knowledge, I should think, than any other professional man." Professor Procter agreed to make the investigation, and after a full examination of every property owned by the company, he has just submitted his reports.

The company was organized without bonds, with all of its property paid for in full, and with the money provided in its capitalization for the improvement of its furnaces and the enlargement of its coal operations.

Professor Procter, after an investigation of the various properties owned by the company, made two reports, one of a technical character for professional iron and coal experts, and one intended for the laymen not familiar with technical details. An introductory paragraph from his report is of general interest, dealing, as it does, with the general advantages of that district. He says:

"There is a growing world-hunger for coal and iron. Great as has been the increasing demand in the past, there must be an accelerating demand in the years to come, and properties having a combination of raw material for the cheap production of coal and iron, with favorable transportation facilities for reaching the markets, form the most substantial and enduring basis for safe and profitable investment. The Consolidated Company is now producing an admirable coke at low cost from its own coal, of which it has an abundant supply. It owns great deposits of iron ores of excellent quality favorably located for cheap mining and convenient to its furnaces, and has ample railway facilities for reaching the great and growing markets of this country, and pig-iron can be delivered from the Birmingham district to seaports on the Atlantic at less cost per ton than from any other furnaces in the world to any other seaports in the world, thus giving the products of your furnaces command of markets in all the seaports of the world."

Giving in detail some facts regarding the properties of the company, Professor Procter estimates that in two veins on the Gate City property, six miles from Birmingham, at least 10,000,000 tons of ore will be easily yielded, and that by sinking shafts at other points on the same property the amount of available ore might be doubled. On the Gadsden property, owned by the company, he estimates 15,000,000 tons of ore as available, and of brown ore the company has an almost unlimited supply. Immediately back of the two furnaces at Ironaton is a great deposit so near the furnaces that the place for the stockhouse was excavated from an ore-bed, and the ore is mined by steam shovels and delivered on the mine cars only a few hundred feet from the furnaces. No reliable estimate of the quantity of brown ore in a deposit can be made, but it has been demonstrated that the deposits on this property aggregate millions of tons, to be mined in open cut with but comparatively light stripping, and in places with steam shovels. On two other brown-ore prop-

erties owned by the company, both of which are being developed, there is an enormous quantity of ore promising to rival in extent the Ironaton mines. Professor Procter says:

"The ownership under one management of such an ample supply of soft red fossil ore, hard self-fluxing red ore and high-grade brown ores, all convenient to existing railway transportation, enables this company to project plans for development far into the future with absolute confidence."

The company owns about 35,000 acres of coal land, estimated to contain of available coal, without counting the deeper seams, but only the upper seams, on which work is now being done, over 130,000,000 tons. At the new "Searles" mine, which has just been opened by the company, there are seventy-four inches of coal, not including the partings. This mine has been equipped for handling 1500 tons of coal a day. "The outcrop of this coal," says Professor Procter, "has been outlined and opened at various points, and careful measurements made demonstrate that this magnificent seam averages at least six feet of coal underlying more than 5000 acres of land owned by the company. After making what I consider a most liberal estimate for coal removed by erosion of streams cutting into the plateau, we have remaining 3000 acres of undisturbed horizontal coal, with a dip of only thirty feet to the mile. This 'double' seam will yield over 30,000,000 tons of coal." With the ovens now under construction the company will have at Brookwood and at "Searles" 525 coke ovens, not including those on the Mary Lee property near Birmingham, of which the company owns the controlling interest. "The four blast furnaces owned by the company are modern, well-equipped, with most improved boilers, engines and hot-air stoves of ample capacity, and all, with the improvements now being added to the Mary Pratt, will be up-to-date furnaces capable of turning out pig-iron at a low cost." The combined capacity is from 425 to 450 tons of iron per day.

Referring to the cost of the properties and the capitalization of the company, Professor Procter says:

"The properties enumerated at the beginning of this report were purchased before the return of prosperity had advanced prices, and were secured at what I consider very low prices in comparison with the present and prospective values. The thirty-three acres of land purchased with the Mary Pratt furnace are worth in the market for building purposes alone, exclusive of the furnace and buildings, more than was paid for the land and furnace. The lands, mines and improvements of the Standard Coal Co. were secured at a price altogether out of proportion to the present earning capacity of the property, and the earning capacity can be steadily increased with the improvements now in progress. The other properties were also secured at a low valuation."

"In these days of excessive capitalization it is refreshing to find a property combining such advantages capitalized on such a conservative basis, free from bonded debt and with ample funds to put the properties in excellent condition for producing coal, ore, coke and pig-iron at low prices."

The Southern Audit Co. has been organized at Birmingham, Ala., for the purpose of making examinations of the financial condition of corporations and individuals. Its officers are Louis V. Clark, president; J. E. Stark, manager, and J. K. Brockman, secretary and treasurer.

The Iron and Metal Trades.

[Special to Manufacturers' Record.]

New York, N. Y., August 8.

In its review of the week the Iron Age says:

"The only effective remedies to restore the iron industry to a normal and sound condition are now being automatically applied, and will do more to inspire confidence than all palliatives. These are an extremely sharp reduction in the production of pig-iron, and quite an active export movement, with the prospect that the latter will expand considerably, since the margin now is very satisfactory."

"As bearing on the first point, our reports from blast-furnace owners show that furnaces have been blown out wholesale during July, making a staggering reduction in the active producing capacity on August 1. At that date 240 furnaces of all kinds were in blast with a weekly capacity of 244,426 tons, against 284 furnaces on July 1, with a weekly capacity of 283,413 tons. This is restriction of production in earnest, and it should soon put the pig-iron market in better shape, particularly when it is considered that the movement has not yet exhausted itself; in fact, in an informal manner the furnace owners of the Central West have decided to bank a number of stacks on September 1 which are now running."

"The furnaces which have been blown out in the past month are scattered all over the country, as follows: New York, Niagara, 1 stack; Lehigh Valley, Pa., Allentown Iron Works 1, Allentown Rolling Mill 2, Thomas Iron Co. 2; Upper Susquehanna Valley, Pa., Lackawana 2, North Branch 1; Lower Susquehanna Valley, Pa., Chickies 2, Aurora 1, Vesta 1; Lebanon Valley, Pa., Bird Coleman 2, Colebrook 2, North Cornwall 1; Western Pennsylvania, Juniata 1, Kemble 1; Shenango Valley, Pa., Claire 1, Ella 1; Pittsburgh, Pa., Edgar Thomson 1, Eliza 1; Maryland, Muirkirk 1; Virginia, Ivanhoe 1, Covington 1; Northern Ohio, Newburgh 1, Lorain 2, Franklin 1; Mahoning Valley, Ohio, Mary 1; Wheeling District, Ohio, Jefferson 1; Hanging Rock Region, Ohio, Lawrence 1, Madison 1, Olive 1; Alabama, Clifton 1, Alice 1; Illinois, Union 2; Wisconsin, Bay View 2, Mayville 1."

"In some instances the proprietors of the furnaces blown out state that their action is taken for the purpose of making repairs, but in such times as these repairs are not usually done under pressure, and it may be assumed that after the repairs are completed such furnaces will not be blown in unless their produce is needed. Meanwhile, other furnaces are to be blown out as soon as stock now in hand is used."

"It is true that the August report shows a further accumulation of stocks, but the rate of reduction of output in the last month represents about 170,000 tons per month, or about double the recent monthly rate of accumulation of metal."

"In the meantime the closing down of so many rolling mills on account of labor difficulties and for other causes must be leading to a steady depletion of stocks of finished goods, so that in that direction, too, the situation is becoming intrinsically sounder."

"Then we are finding relief in our export trade. Very considerable quantities of steel billets, tinplate and sheet bars, skelp, wire rods and finished articles have been shipped, and have been contracted for shipment at prices which net rather better than for the home market, in spite of the fact that they are very much lower than those ruling in the British open markets. In other words, there is the prospect that considerable addi-

tional business may be put through, although freight rates are high and show a stiffening tendency. Costs abroad are on a high level, through scarce fuel, high labor and costly ores.

"Prices here are to some extent unbalanced, finished products being relatively much lower than the cruder or semi-finished forms, a condition of affairs which practically rules out those who do not control the materials from the ground up. If the demand must call upon them for product, the raw material must decline or the finished product must advance."

Texas' Bright Outlook.

Mr. Charles W. Rosenberger, a prominent bond dealer of New York, who has recently been making a tour through the Southwest, in an interview is quoted as saying:

"Marked evidences of the great development taking place, especially in Texas, were everywhere noticeable. The prices at which all the products of the State are selling are making producers a surplus of money which they are investing in substantial improvements of every description, and in increasing their holdings of lands and flocks. In its infancy is the iron industry of the State. Vast deposits of red hematite ores in East Texas, with the magnetic ores of the Llano district, offer to the industrial world opportunities which so far have not been appreciated, but must soon attract the attention of men in the iron world. Never before has the railroad situation in Texas been so favorable, and the new lines of road actually building, as well as the extensions of the older systems, argues well for the possibilities which the growth of the State presents."

The Textile World's Textile Directory for 1900. Publishers, Messrs. Guild & Lord, 620 Atlantic avenue, Boston, Mass. Price in cloth, \$2.50; flexible covered, \$2.00.

The Textile World's 1900 Directory of Textile Mills and of Buyers of Textile Fabrics contains full information about the textile industry and allied interests, giving all details about each establishment, class of goods made, machinery, officers, etc. It also contains lists of dry-goods commission merchants, manufacturing clothiers, suit and cloak-makers, jobbers and large retailers, wool and cotton-rag dealers, as well as cotton, woolen, worsted, knit, silk, flax and jute mills. Besides this there are tables for manufacturers' use. A valuable feature is the system of textile maps, showing where mill towns are located, and so arranged that ready reference can be made to any town. A summary of mill statistics shows that great gains have been made in this industry in the past ten years. There are now 21,057,983 cotton spindles in the United States, 7806 woolen sets of cards, 1510 worsted combs, 75,721 knitting machines, 1,426,245 silk spindles, 490,398 cotton looms, 80,759 woolen and worsted looms, 48,246 silk looms. The percentage of increase over the census figures of 1890 show in the cotton industry about 50 per cent. gain; in strictly woolen carding machinery, 8 per cent. increase; in worsted machinery, 76 per cent., while the knitting and silk industries have gained over 100 per cent. The book has 448 pages, with twenty-two map plates. The system of arrangement is very convenient, and the book is crossed indexed.

One day last week 1911 tons of pig-iron and fifty-five tons of steel billets were exported from New Orleans. Shipments of horses and mules from the port to South Africa continue.

RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Shreveport as a Railroad Center.

The extension of the service of the Missouri, Kansas & Texas Railroad to Shreveport, La., promises to be of great benefit to that city and the section of which it is the principal market. The first freight train into Shreveport by the new route was recently sent over the line, and carried flour, coal, wheat and miscellaneous freight. By its new connection Shreveport will be brought into close contact with a large area of Northeastern Texas, as well as the Indian Territory, and its jobbing and retail trade will undoubtedly be greatly increased, while the possibilities are that it will become a much more important lumbering center than it is at present. But a few years ago the Kansas City, Pittsburg & Gulf, now the Kansas City Southern, was extended to Shreveport, with the result that it secured a direct route to tidewater, a very important advantage. With the Missouri, Kansas & Texas, the city is now located on one of the most important east and west trunk lines, as well as one of the principal north and south systems of the country.

An Improved Dining Car.

The Southern Railway Co. has originated several improvements in transportation service which have been imitated by other lines in the country. A recent idea which has been carried out is that of dining cars with more accommodation for the pantry and kitchen. In the usual railway dining car these necessary apartments are crowded into such a small space that the cooking is frequently unsatisfactory. In each of the Southern cars the pantry is about eleven feet in length and seven feet in width. The kitchen is so arranged that guests cannot see the culinary operations, and the tables for serving are so arranged that ample space is given patrons. The cars, which were designed by Mr. John C. Burrowes, have been in service nearly a year. Already fourteen duplicates have been ordered by other railway companies who have examined the plans. The cars are finished in mahogany, with hand-painted decorations, and have every modern convenience.

Electric Line in Mississippi.

The plan to build a railroad along the coast of the Gulf of Mexico in Mississippi has reached a point where the enterprise may be carried out during the present year. The Gulf Coast Railroad Co. has been formed to push the project. In a letter to the Manufacturers' Record Mr. W. L. Covel, general manager, writes that the road will be about thirty-two miles in length, including one or two short branches. The main line will extend between Biloxi and Pass Christian, reaching also Mississippi City and Hattiesburg. It will be operated by trolley motors, and right of way is now being secured. According to Mr. Covel's statement, the financial arrangements have about been completed, and it is calculated to have the line in operation by December 1. This will be one of the longest electric roads in the Gulf States. M. A. Dahlgren is president of the company; James B. Cable, vice-president, and J. V. Ross, secretary and treasurer.

Street Railway Improvements.

A number of important improvements are to be carried out by the street railway companies in Augusta, Ga., Rich-

mond, Va., and Selma, Ala. It is announced that the Augusta Railway & Electric Co. has ordered 1000 tons of heavy steel rails for extensions, and that it is calculated to construct about ten miles of track during the present year. The street railway line at Selma has been purchased by a syndicate headed by F. M. Abbott, president of the Birmingham, Selma & New Orleans Railroad Co., and it is understood will be rebuilt for the use of electric motors. The company intends erecting its own power-house. At present the lines are operated by animal power. The Richmond Passenger & Power Co. is now placing a quantity of heavier rails upon its electric line in the city, and has recently purchased a quantity of rolling stock to be used.

Sale of Gulf, Beaumont & Kansas City.

The official announcement is made that the Gulf, Colorado & Santa Fe Railroad Co. has secured control of the Gulf, Beaumont & Kansas City line, and hereafter the latter will be operated as a part of the Santa Fe system. The Gulf, Beaumont & Kansas City Railroad is one of the new lines in Texas which is in operation between Beaumont and Rogan, a distance of sixty-one miles. An extension is now under construction from Rogan to San Augustine, a distance of seventy-five miles. The road has a connection with the Gulf & Interstate by which through trains are operated between Beaumont and Galveston, Texas. A connection between the Santa Fe and the Gulf, Beaumont & Kansas City will be made by extending what is known as the Conroe branch of the Santa Fe a distance of about sixty miles.

Carolina & Northwestern.

The proposed extension of the Carolina & Northwestern Railroad into Tennessee is attracting much attention in the towns which the line reaches. A compilation of industries recently made shows that on this road are thirty-seven cotton factories, five cotton-oil mills and sixty-four other industries, representing an investment of nearly \$6,000,000. From these plants the company derives an annual freight traffic of nearly \$60,000. It is understood that one of the principal reasons for the extension into Tennessee is to reach coal mines with the view of supplying fuel to the mills referred to; also for carrying it to tidewater for bunker fuel for steamships and export. The proposed extension will be about forty miles in length, terminating at Butler, Tenn., for the present.

Tennessee Central Construction.

The difficulties attending the construction of the Tennessee Central Railroad are referred to by the Railway Review in an elaborate illustrated article. The country through which this road is to traverse is one of the most difficult for railroad construction. Already, however, about thirty-five miles have been completed. A number of large bridges have been built, while a considerable amount of tunnel work is required. The highest and longest bridge on the line includes 1016 feet of wooden trestle and about 400 feet of steel viaduct. Its greatest height is 124 feet. One of the tunnels is 900 feet long, and is excavated through solid rock. The entire length of the line is to be 210 miles. It is being built by a company of which Jere Baxter of Nashville is president.

Baltimore and Ohio Dividend.

The announcement is made that the Baltimore & Ohio Railroad Co. has declared a dividend of 2 per cent. on its pre-

ferred stock and 4 per cent. on its common stock. The official notice is to the effect that the dividend on the common stock is payable out of the net earnings ending June 30 last. Two per cent. is payable on September 4 next, and the remaining 2 per cent. on March 1, 1901. The income account of the Baltimore & Ohio shows total net earnings amounting to \$14,482,000 and net income of \$15,552,000. After deducting taxes and charges of all kinds and the dividend of 4 per cent. on \$60,000,000, a surplus is left of \$4,454,000.

Norfolk and Western Earnings.

The report of the Norfolk & Western Railroad Co. for the year ending June 30 shows net earnings amounting to \$5,590,000 and a surplus of \$3,316,000. According to this statement, the company has earned over 3 per cent. available for a dividend on the common stock. The gross earnings increased \$2,264,000, or 16 per cent., while the operating expenses increased only \$562,000. It is notable that the proportion of operating expenses to earnings has decreased during the past year from 67 to 60 per cent. This is an indication of the benefit of the improvements which have been made to the system.

Large Rolling Stock Contract.

The contract for rolling stock which was announced some time ago as to be given out by the Seaboard Air Line Company has been awarded to the South Baltimore Car Works, and is one of the largest contracts ever received by a rolling-stock corporation. It includes 300 refrigerator cars, 700 box cars and 1000 flat cars, and involves an expenditure by the railway company of about \$1,500,000. It is stated that a portion of the order is to be filled at once, and that all of the cars are to be built as soon as possible.

New North Carolina Line.

In a letter to the Manufacturers' Record Mr. J. H. Macleary, general manager of the Great Eastern Railway Co., writes that construction work has already begun upon this line between Snow Hill and Fremont, N. C., a distance of twenty-one miles. C. E. Coon, general manager for the Eagle Construction Co., has secured the contract. This road is being promoted through Eastern North Carolina a distance of 160 miles between Selma and Greenville. The route includes Snow Hill, Fremont and several other towns.

To Use the Terminal.

It is stated that arrangements are being made by various railroad companies reaching Wheeling, W. Va., to utilize the terminal system controlled by the Wheeling Bridge & Terminal Co. This property was sold by order of the court in May last to a syndicate representing the Pennsylvania Railroad Co. It is stated that the Baltimore & Ohio, the Cleveland, Lorain & Wheeling and the Cleveland & Pittsburg companies are among those which have already made arrangements for its use.

Belt Line Electric System.

In the last issue of the Manufacturers' Record a description of the electrical system which is to be used on the Belt Line division of the Baltimore & Ohio was published. Mr. W. D. Young, electrical engineer of the Baltimore & Ohio, states that the third-rail system similar to that in use on a part of the New York, New Haven & Hartford Railroad will be placed in service on six miles of the line,

and that the Murphy sectional system will be used on the remainder of the road.

Railroad Notes.

Mr. W. R. Fuller, Jr., has been appointed general agent of the Seaboard Air Line Railway at Tampa, Fla.

Mr. C. T. Williams has been appointed assistant superintendent of the Seaboard Air Line, with offices at Jacksonville, Fla.

Mr. M. F. Plant has been elected vice-president of the Plant Railway & Steamship Co., succeeding Stuart R. Knott, who recently resigned.

A dispatch from Anniston, Ala., is to the effect that the Southern Railway Co. is considering the erection of an elaborate passenger depot in that city.

The Cane Belt Railroad Co. announces the completion of its line between Sealy and Wharton, Texas, a distance of forty-three miles. Trains are now in operation.

In a letter to the Manufacturers' Record Mr. S. S. Bullis, general manager of the Gulf & Ship Island Railroad Co., states that the report to the effect that the company may construct a line up the Pearl river is entirely erroneous.

The Georgia Railroad Co. believes in patronizing home industry, and is now constructing a vestibule train at its shops at Augusta, Ga., which will be one of the most completely-equipped trains in the South. It is also constructing a number of freight cars.

A new route for the dispatch of freight has been arranged between Chattanooga and the Southwest by way of Shreveport, La. It has been created by the extension of the Missouri, Kansas & Texas Railroad to Shreveport, as recently announced.

It is announced that the Ohio Valley Electric Railway Co. has completed its lines between Huntington, W. Va., and the Big Sandy river in Kentucky. A bridge is to be built across the river, when Huntington and Ashland, Ky., will be connected by the system.

P. S. Jones, immigration agent for the Louisville & Nashville Railway Co., has recently been making a tour in the North in the interest of this line. He states that there is a prospect of locating several colonies along the Louisville & Nashville, one of which will be from Ohio.

E. A. Frost, secretary of the Lufkin Land & Lumber Co. of Lufkin, Texas, writes the Manufacturers' Record that the lumber road owned by this line has been incorporated. It extends from Lufkin a distance of fourteen miles in a southeast direction, reaching timber tracts principally controlled by the company.

The shipments of fruit in the North by way of the Nashville, Chattanooga & St. Louis Railway have been extremely heavy this year. During one day recently fifty-two carloads of melons alone were sent to the Northern market, while during the month of July 311 carloads of peaches, 565 carloads of melons and thirty-seven carloads of pears were carried.

Explaining a contract made by the city of Houston, Texas, with Mr. T. J. Shea amounting to about \$200,000 for an intercepting sewerage system and purification plant, Mr. Tom Richardson, secretary of the Houston Business League, writes: "Houston received an appropriation of something over \$400,000 for a deep-water channel from the jetties at Galveston to this city. One of the requirements of the United States was that the sewerage should be taken out of Buffalo Bayou, and as a result \$300,000 in bonds were voted."

FOREIGN TRADE.

This department is designed to set forth opportunities for the extension of the trade abroad of American manufacturers, and to record facts about the rapidly-developing commerce of the South.

MOVEMENT OF MANUFACTURES.

Developments of the Sale of American Products.

The development of the manufacturing industries of the United States during the past decade, and especially during the second half of the decade, is illustrated by the completed figures of the Treasury Bureau of Statistics, showing the imports of manufacturers' materials and exports of finished manufactures in the fiscal years 1890, 1895 and 1900. From 1890 to 1895 importations of manufacturers' materials increased \$9,047,231, and from 1895 to 1900 they increased \$114,781,363. From 1890 to 1895 the exports of manufactures increased \$32,493,367; from 1895 to 1900 they increased \$248,688,623. Manufacturers' materials formed in 1890 23.06 per cent. of the total imports; in 1895, 25.64 per cent., and in 1900, 35.57 per cent.; finished manufactures formed in 1890 17.87 per cent. of the exports; in 1895, 23.14 per cent., and in 1900, 31.54 per cent.

The table which follows presents the figures for each of the periods named:

Fiscal year.	Manufacturers' materials imported.		Manufactures exported.	
	Per cent. of total imports.	Per cent. of total exports.	Per cent. of total imports.	Per cent. of total exports.
1890.	\$178,435,512	23.06	\$151,102,376	17.87
1895.	187,182,743	25.64	183,585,743	23.14
1900.	302,261,106	35.57	432,284,366	31.54

NOTE.—In the above statement the term manufacturers' materials includes only the articles classified as "articles in a crude condition which enter into the various processes of domestic industry."

The following table shows the exportations of principal manufactures arranged in the order of magnitude in the fiscal year 1900, including all whose value in that year exceeded \$1,000,000, and compares the exports of 1900 with those of 1895 and 1890:

	ARTICLES EXPORTED FROM THE UNITED STATES.		
	1890.	1895.	1900.
Iron and steel	\$25,542,208	\$32,000,989	\$121,853,244
and mfrs. of			
Oils, mineral	44,658,854	41,498,372	68,246,949
refined	2,349,392	14,468,703	57,851,707
Copper mfrs.	12,438,847	15,614,407	27,288,808
Leather and	9,999,277	13,789,810	23,890,001
mfrs. of	3,859,184	5,413,075	16,094,886
Cotton mfrs.	5,424,279	8,189,142	13,196,638
Agrie. impts.	6,509,645	6,249,807	11,230,978
Chemicals,	2,408,709	3,569,614	8,602,722
drugs, etc.	1,618,681	5,741,262	7,218,224
Wood mfrs.	1,429,785	1,912,717	6,431,201
Paraffin and	1,226,686	2,185,257	6,215,559
paraffin wax	3,876,045	3,953,165	6,009,646
Fertilizers	2,094,807	1,722,559	4,438,285
Scientific in-	Not stated.	Not stated.	3,551,025
struments	1,886,004	2,316,217	2,941,915
Paper and	2,056,980	1,514,336	2,809,784
mfrs. of	378,115	366,800	2,604,362
Tobacco mfrs.	2,689,698	868,378	2,554,907
Fibers, vege-	1,090,397	1,505,142	2,364,157
table, mfrs.	1,633,110	2,991,686	2,278,111
Cycles	326,227	491,436	2,162,759
Books, maps	654,498	558,770	2,137,527
and engrav.	1,695,136	1,204,005	1,974,202
Carriages and	1,105,134	1,115,727	1,955,707
horse cars	882,677	946,381	1,933,201
Starch	578,103	729,706	1,902,058
Cars for steam	868,728	1,277,281	1,888,741
railways	467,313	784,640	1,866,727
India rubber	1,109,017	1,092,126	1,773,921
and gutta	729,111	885,179	1,677,169
percha mfrs.	166,150	237,815	1,668,202
Spirits, dist'd	2,080,662	1,119,476	1,569,317
Vegetable oils	437,479	670,226	1,253,692
(except cotton			
and linseed)			
Malt liquors			
Clocks and			
watches			
Musical insts.			
Glass & glass-			
ware			
Paints and			
colors			
Gunpowder &			
other explo-			
sives			
Brass mfrs.			
Soaps			
Marble and			
stone mfrs.			
Zinc mfrs.			
Sugar, refined			
(excluding			
candy)			
Wool mfrs.			

Machinery in Africa.

In a letter to the Manufacturers' Record P. Leclercq of Tunis writes: "For about three years I have been agent of the Aermotor Company for Al-

geria and Tunis, and have succeeded in doing considerable business in this line. I am now thinking of adding to that branch the handling of all kinds of agricultural machines in general, such as mowers, reapers, plows, etc., and it is on this subject that I am going to ask you for information. There are in Tunis five commercial houses dealing in farming appliances, but these firms are simply depots organized by the principal agents of American manufacturers, which agents have established themselves at Paris, so that no one deals directly with the American producer. The general expenses are paid by the Parisian agents, and the depositaries in Tunis receive a commission on the sale of the merchandise. I beg, then, to ask you if you could not put me in communication with some American manufacturers who would look into the matter, and who would consent to constitute me an agent. The stock necessary for such an enterprise is too great for me to be able to purchase the merchandise outright on my own account, as I already do with the Aermotor Company, for what I can do in a single line, which even now demands a considerable outlay of cash money. I would not be able to accomplish when it came to handling the numerous articles destined for agriculture. It is necessary, therefore, for me to find either manufacturers or commission houses who would supply me with merchandise, to be paid for only after the sales are made, they sharing the profits.

"The reapers employed in Tunis and Algeria are the McCormick, Massey-Harris, Johnston, Bonnie and Adrienne; these are the only kinds known, the McCormick and Johnston's being most in demand. American implements are almost the only ones employed in agriculture, and as Tunis and Algeria are progressing from day to day, the Aermotor Company will endorse me in saying that there is here a place for plenty of business. There are many other articles that might be imported from America, of which I will write you later. A good gasoline motor would sell equally well here."

Largest in the Port.

The steamship Irada, which recently arrived at Galveston on her first voyage across the Atlantic, is the largest vessel by far which has yet entered this port. The Irada will carry about 12,000 tons of cargo, and is 535 feet in length, 37 feet deep and 59 feet beam. She is equipped with twin screws, and has engines capable of developing 5500 horse-power. It is understood that the ship will be utilized in the Galveston and Liverpool trade.

Cottonseed for Germany.

A dispatch from Americus, Ga., is to the effect that a large quantity of cottonseed is being shipped to Germany, where it will be used as feed for live-stock. One company recently filled an order for 825 tons for Hamburg. The order required an entire freight train to carry it to Savannah, at which point it was placed on shipboard.

Has No Connection With It.

In the last issue of the Manufacturers' Record reference was made to the Norfolk Shipbuilding & Dry-Dock Co., and Mr. J. P. Andre Mottu was mentioned as president. Mr. Mottu has no further connection with this company, and the announcement was made through a misapprehension.

The new coal-shipping pier built by the Chesapeake & Ohio Railway Co. at Newport News, Va., is now in complete operation. It has a capacity for loading between 15,000 and 20,000 tons of coal on shipboard every twenty-four hours.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

\$100,000 Spinning and Knitting Mill.

Another important industry will be added to the cotton mills and other factories now located at Cedartown, Ga. This latest acquisition is announced as a \$100,000 spinning and knitting mill, which is to produce a fine grade of goods. The Josephine Mills has been incorporated, with capital stock of \$100,000, to establish the enterprise, the incorporators being Messrs. Paul D. Baugh, George H. Wade and Louis D. Wade of Cedartown, Daniel Baugh and Edwin J. Baugh, Jr., of Philadelphia, Pa. Site has been selected, and within thirty days contracts will be awarded for the erection of the necessary buildings. The machinery will include spindles to manufacture yarns and knitting machines to knit the yarns into fine underwear, a daily capacity of 400 dozen having been decided upon. Paul D. Baugh of Cedartown will be the active manager.

Bleachery in South Carolina.

Arrangements are now being completed for the erection and equipment of the bleachery previously announced to be established by the Clearwater Bleachery & Manufacturing Co. This corporation obtained its charter some months ago, as reported at the time, and last week awarded contract to T. O. Brown of Augusta, Ga., for the erection of a \$50,000 building in which the bleaching equipment will be placed. The plant will be located at Clearwater, S. C., several miles from Augusta, Ga. The capitalization is \$300,000. The directors of the company are Messrs. Charles Estes, Norman Schultz, H. B. Vaughan, F. B. Pope, J. F. McGowan, W. J. Craig and Thos. Barrett, Jr., all of Augusta, Ga. Mr. Barrett is president.

Textile Notes.

The Washington Woolen Mills of Fredericksburg, Va., is making extensive improvements.

The Elizabeth City (N. C.) Cotton Mills are said to be installing \$40,000 worth of new machinery.

The Huntsville (Ala.) Cotton Mills Co. has completed its addition, and is placing new machinery.

Messrs. Gardner, Liles & Co. of Morven, N. C., contemplate establishing a cotton underwear knitting mill.

A \$10,000 company has been organized at Eastman, Ga., to build a knitting mill. N. Wynne is president, and Park Hooper, secretary.

The Anniston (Ala.) Manufacturing Co. is making improvements at its cotton mill, including the installation of a plant for electric lighting to supply 450 lights.

A. H. Cobb of Suffolk, Va., has about decided to build a larger knitting mill in Newport News, Va., where he established a small experimental plant several weeks ago.

The Somerset Commercial Club of Somerset, Ky., wants estimates on the construction and equipment complete of a cotton mill. Information regarding several sized mills is requested.

The Riverside Woolen Mills of Knox-

ville, Tenn., has put in additional machinery lately, including a new finishing machine. This improvement will enable the plant to produce a high grade of suit cloth.

George A. Wagener and associates will organize a \$150,000 stock company for the purpose of establishing a seamless-bag factory at Charleston, S. C. The interested parties are already stockholders in the Royal Bag Co., which operates a factory in Charleston.

The new Shelby (N. C.) Cotton Mills has been fully completed, and the machinery has commenced operations. The equipment includes 6000 spindles and 300 looms. Messrs. J. F. Williams and M. M. Mauney are, respectively, secretary and superintendent of this \$125,000 enterprise.

Louis H. Mason and associates of Birmingham, Ala., intend to establish a mill for the manufacture of cotton underwear. It is proposed to manufacture the yarns, knit the underwear and dye the product ready for market. Daily capacity is to be 300 dozen garments. Makers of the required machinery are requested to submit prices.

Messrs. G. N. Henson, H. S. Chamberlain and A. W. Chambliss of Chattanooga, Tenn., have made an announcement regarding the proposed \$500,000 cotton mill. These parties represent the committee on subscriptions for the mill as proposed by A. S. Hamilton of Trion Factory, Ga. It is announced that the project will be postponed for some months because of the changed conditions in foreign trade and falling prices on machinery.

An interesting fact embodied in the Transactions of the New England Cotton Manufacturers' Association, just issued under the editorship of Secretary C. J. H. Woodbury, is that of the 603 members of the association, fifty-six are millmen of the South. The Transactions contain the report of the proceedings of the last annual meeting of the association, held at Boston in April, and the set papers presented upon that occasion, with discussions of them.

QUOTATIONS OF COTTON YARNS.

By Buckingham & Paulson, New York, Philadelphia and Chicago, August 6.

No. 10s-1 and 12s-1 warps.....	14 @14½
No. 14s-1 warps.....	15 @—
No. 16s-1 warps.....	15½ @—
No. 20s-1 warps.....	16 @16½
No. 22s-1 warps.....	16½ @17
No. 26s-1 warps.....	17½ @18
No. 6s to 10s bunch yarn.....	13½ @14
No. 12s-1.....	14½ @—
No. 14s-1.....	15 @15½
No. 16s-1.....	15½ @16
No. 20s-1.....	16½ @—
No. 22s-1.....	17½ @17
No. 26s-1.....	18½ @19
No. 8s-2 ply soft yarn.....	13½ @14
No. 10s-2 ply soft yarn.....	14 @14½
No. 8s-2 ply hard.....	13½ @14
No. 10s-2 ply hard.....	14 @—
No. 12s-2 ply hard.....	14½ @—
No. 14s-2 ply.....	15 @—
No. 16s-2 ply.....	15½ @16
No. 20s-2 ply.....	17 @—
No. 24s-2 ply.....	17½ @18
No. 26s-2 ply.....	18 @18½
No. 30s-2 ply yarn.....	19½ @—
No. 40s-2 ply.....	22 @20
No. 8s-3, 4 and 5 ply.....	13 @13½
No. 20s-2 ply chain warps.....	17 @17½
No. 26s-2 ply chain warps.....	18½ @—
No. 30s-2 ply chain warps.....	19 @—
No. 16s-3 ply hard twist.....	15½ @16
No. 20s-3 ply hard twist.....	17 @—
No. 26s-3 ply hard twist.....	18 @18½

Very dull and weak.

It is expected that work on the exposition grounds at Charleston will begin on November 1. To a reporter of the News and Courier Supervising Architect Gilbert said that each visit to the grounds impresses him more and more with their natural advantages and the ease with which striking and handsome effects may be produced. The grounds will lend themselves gracefully to development, and with the main building properly placed a scene of rare beauty may be arranged.

PHOSPHATES.

Tennessee Phosphates.

A correspondent of the Manufacturers' Record writes:

"An unprecedented state of affairs now exists in the phosphate region of Tennessee, more especially in Maury county, where over 90 per cent. of the rock is produced. In June there were only five days in the whole month when the laborers could work, the rain having come down in torrents on twenty-five days, the total rainfall having been over ten inches for the month. Such a condition was never known before since the mines were first opened. July has been nearly as bad. The first half of the month it rained frequently, and from the 16th to the 30th it rained more or less every day, some days deluging the mines and making the roads almost impassable.

"The miners are discouraged, and the laborers are leaving the fields because they can do no work. It will be a matter of difficulty to get them back again, as harvesting is now going on all over the South, and they can get steady work and better wages for the next three months.

"The rock above ground is only about 40,000 tons, all of which is already sold for delivery during the last half of the year, in addition to which the miners have orders already on their books for over 200,000 tons for future delivery, and it will be impossible for them to mine such quantity under the most favorable circumstances, even if hot, dry weather were to set in today and continue uninterrupted for the remaining five months of this year. It would be absolutely impossible to mine and prepare 200,000 tons of rock for shipment, even if the miners could get back at once the 4000 negroes who have already left the field. For the first time since the mines were opened there will be a heavy decrease in production against a heavy increase each succeeding year heretofore. In the autumn of 1899 all the orders were filled and the storage sheds were full of rock. The miners went into winter quarters with over 100,000 tons of rock on hand to ship out on winter orders.

"Today the situation is entirely changed. The shipments have been larger the first six months of 1900 than for the corresponding period of 1899. The demand is not merely steadily, but rapidly increasing. The orders on hand for last half of this year are larger than they were for the last six months of last year. Already some miners have been compelled to ask for extensions of three, four and even six months on their shipments, and several companies decline to book any further orders at any price.

"In regard to price, the miners show no disposition to contract ahead. They have bought their experience. The larger companies have put in the newest, most improved and expensive machinery, and in future will ship rock high in B. P. L. and low in iron and aluminum. In addition, they realize that the rock once mined is gone forever. It does not grow again."

Phosphate Markets.

Office Manufacturers' Record, Baltimore, Md., August 8.

In the local phosphate market there has been a slight improvement during the past week, and, as in other fertilizer ingredients, there is more business doing. Manufacturers are buying more freely, and from out-of-town parties the demand is improving. At points of production in the Southern phosphate belt miners and shippers are busily engaged. The situation in Florida is unchanged, and the movement, both at mining points and ports of shipment, is fairly active. Dur-

ing the past seven months ending July 30 shipments of phosphate rock from Fernandina aggregated 136,535 tons, and of high-grade Florida rock from the port of Savannah for the same period 65,116 tons. Shipments from Port Tampa during the year have also been very large, especially of pebble. Prices continue very steady, and holders firm in their views under a fair domestic and foreign inquiry. In the Tennessee field the market for rock is showing up in better form, and the demand, both domestic and foreign, is improving. Shipments continue to improve, the daily output from Mt. Pleasant last week on the Louisville & Nashville Railroad being about ninety cars. This is not including the shipments by the Tennessee Phosphate Co. From Pensacola the shipments of Tennessee rock are increasing, the latest charter reported being a Spanish steamer of 1830 tons from Pensacola to Dunkirk with phosphate at 19/. South Carolina phosphate rock is being vigorously mined, and the market is firm under a steady demand.

Fertilizer Ingredients.

There is a fairly active demand for leading ammoniates, and the market is firm, with a slight advance in blood stocks in the West are light, and holders firm. There is a better demand from Southern sources. Sulphate of ammonia shows more strength on favorable foreign advices. Nitrate of soda is quiet and steady for spot lots and stronger for forward positions.

The following table represents the prices current at this date:

Sulphate of ammonia (gas)....	\$2 85 @ 2 87½
Nitrate of soda, spot Balto.....	— @ 2 05
N. York.....	— @ 1 80
Blood.....	2 27½ @ 2 30
Azotine (beef).....	2 20 @ 2 25
Azotine (pork).....	2 20 @ 2 25
Tankage (concentrated).....	1 95 @ 1 97½
Tankage (8 and 20).....	2 15 & 10¢ 2 20 & 10
Tankage (7 and 30).....	19 00 @19 50
Fish (dry).....	23 00 @24 00

Phosphate and Fertilizer Notes.

The shipments of Tennessee phosphate rock from the port of Pensacola during July amounted to 3983 tons.

The total shipments of phosphate rock from the port of Fernandina, Fla., for the month of July aggregated 20,300 tons.

It is said that the report that the plant of the Columbia Guano Co. of Norfolk, Va., had been purchased by the Virginia-Carolina Chemical Co. is denied by the vice-president of the Columbia Company.

Among the foreign shipments of cottonseed products last week from the port of Galveston were 6634 sacks of cottonseed meal and 843 bales of linters for Bremen, and 6720 sacks of cottonseed meal for Hamburg.

It is stated that the daily shipments of phosphate rock from Mt. Pleasant, Tenn., during the last ten days of July over the Louisville & Nashville Railroad averaged ninety cars. This does not include the shipments made by the Tennessee Phosphate Co.

The Norwegian steamship Mathilda, which sailed from Fernandina on the 1st with 2500 tons of phosphate rock and 7000 barrels of naval stores, consumed about fifty-five hours in taking on her cargo. This is considered very rapid loading, and about as quick dispatch as can be had at any Southern port.

It is stated that the Virginia-Carolina Chemical Co.'s plant at Baldwin, near Beaufort, S. C., will suspend operations temporarily after August 10. This plant was recently acquired by purchase from the Baldwin Fertilizer Co. of Savannah, Ga., and has an annual capacity of 60,000 tons of finished material. This concern now has 30,000 tons of the finished product awaiting a market.

The schooners Gracie D. Buchanan and

Carrie A. Lane arrived at Port Tampa, Fla., on the 4th inst. to load cargoes of phosphate rock. The steamship Winnifred sailed on the 3d from Port Tampa with 3300 tons of pebble phosphate from the Palmetto Phosphate Co. for Cartaret. The British steamship John Morrison was loading a cargo of phosphate at the above port on the 4th inst.

It is stated that the Armours of Chicago and the Charleston Mining & Manufacturing Co. of Charleston, S. C., are to erect a fertilizer plant at Charleston to cost probably \$1,500,000. The plant will be located on the Ashley river, near the site of the Pacific Fertilizer Co., and will be equipped with all the most modern appliances. The Armours mill will utilize the blood, tankage, etc., from their slaughter pens in Chicago, and the phosphate rock will be supplied by the Charleston Mining & Manufacturing Co.

The shipments of high-grade Florida phosphate rock from the port of Savannah, Ga., for the month of July, as reported by Messrs. J. M. Lang & Co., were as follows: Steamship Thespia for Rotterdam with 2907 tons, by H. F. Dutton & Co.; steamship Melbridge for Gothenburg with 4000 tons by Schulmann & Bene, and steamship Dorrien for Hamburg with 2688 tons, by H. F. Dutton & Co., or a total of 9595 tons. The British steamships Silverdale for Bremen and Legan and the Laura for Hamburg and the British bark Carl Von Dobein for Buenos Ayres, S. A., cleared from Savannah last week with a total of 6025 tons of phosphate rock among their cargoes.

Cottonseed-Oil Notes.

At Huntsville, Ala., the Alabama Cotton Oil Mills have just completed a round-bale compress and ginnery, which will be run in connection with the mills. The plant cost \$20,000.

The Upson County Oil Mills, for the establishment of a 40-ton cottonseed-oil mill, has been incorporated at Thomaston, Ga. The capital stock is \$25,000, with privilege of increasing to \$100,000. The incorporators are W. F. Baker of Atlanta, C. A. McDaniel, F. J. Coolidge and John D. Malsby of Thomaston.

The first edition of Queen Cottonseed Tracts, published by Edwin Lehman Johnson, Fort Hill, S. C., has been entirely exhausted, and orders are now being taken for a new edition, a fourth tract having been added entitled "Robbing Peter to Pension Paul," which is a plea to relieve the cotton States from the burden of federal pension taxation without lessening the pensions. A number of oil mills have interested themselves in distributing the Queen Cottonseed Tracts to the public.

There has been very little change in the market for cottonseed products at New Orleans during the past week. Cottonseed oil is quiet and about steady for spot and future deliveries. There is some export demand for cake and meal. Receivers' prices are as follows: Cottonseed, \$15 per ton (2000 pounds) delivered here; cottonseed meal jobbing at depot, \$22 per short ton and \$23 to \$23.75 per long ton for export f. o. b.; cottonseed oil, 25 to 26 cents per gallon for crude loose f. o. b. in tanks here; in barrels, 28 cents, and 34½ to 35 cents for refined oil at wholesale and for shipment; oilcake, \$23.75 to \$24 per ton f. o. b.; linters—A, 4½ to 5 cents per pound; B, 4 to 4½ cents; C, nominal; hulls delivered at 20 cents per 100 pounds, according to the location of the mills.

The Oxley Stave Co. will shortly remove its plant from Riceville, Tenn., as the supply of timber in that section is becoming exhausted.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,
Baltimore, Md., August 8.

As usual at this period of the season, the lumber market is devoid of snap and vigor, and the movement in almost every department is confined in narrow limits. In several lines, however, the situation is such as to warrant an increase of business during the early autumn months, and already numerous inquiries are being received from Northern sources as to prices and ability to fill some large orders. The North Carolina pine trade, which is prominent in this market, is already taking on some interesting features, and while the volume of trade is not large, the notable interest in the future of North Carolina pine exhibited by Northern buyers indicates considerable improvement in the demand at an early date. Prices are very steady throughout the list, and for several choice grades for export values are a shade firmer. Foreign buyers are purchasing more liberally, and so far this month the foreign demand shows greater strength. In all hardwoods dealt in there is a steady demand for the better grades of lumber in poplar, ash and oak. Woodworking concerns are buying merely to supply current necessities, but there is more disposition to purchase in the near future, and dealers here are of the opinion that an early revival in trade may be expected. Stocks at milling points are all very light, and especially in dry lumber of all kinds. The foreign export trade continues of limited volume, with shipments of fair volume from this port and Norfolk.

Savannah.

[From our own Correspondent.]
Savannah, Ga., August 6.

The month of July, while not showing large sales of lumber, developed the fact that there is still a good demand for all grades of desirable material. During the past week there has been a better inquiry from the usual sources, and manufacturers are somewhat encouraged by the outlook for a good fall trade. Prices are a shade firmer, being quoted f. o. b. as follows: Minimum yard sizes, \$10.50 to \$11; car sills, \$12 to \$13; different sizes, \$14 to \$18; ship stock, \$18 to \$22; sawn ties, \$8 to \$8.50; hewn ties, 35 to 38 cents. At Brunswick the situation is looking better, and there is a much steadier tone to the market. The demand, both coastwise and foreign, shows signs of an early improvement, while values throughout the list are fairly well maintained. The strike at Darien and Sapelo has been declared off, and vessels loading with timber and lumber are receiving prompt dispatch. During the past week shipments of lumber amounted to about 2,000,000 feet, and the market on Saturday closed with a better inquiry from all sources. There are few charters reported for the week, and vessels are generally scarce, with rates firm. The schooner Maud Dudley, 327 tons, was taken last week to load lumber here for Bangor, Me., at \$6. Other charters to load lumber are reported at \$5 and \$5.25 to New York and Sound ports.

Jacksonville.

[From our own Correspondent.]
Jacksonville, Fla., August 6.

The business of this port for the month of July, as reported by the collector of customs, has been the lightest of any month during the year. The lumber in-

dustry, as at other ports on the South Atlantic coast, has been rather quiet, although there has been a better volume of business than manufacturers expected. The demand towards the close of the month and during the week just closed has been of better volume, and manufacturers look forward to an increase in business toward the fall months. Northern buyers are already sending in inquiries for certain grades of pine and cypress lumber, and millmen are generally disposed to hold stocks rather than make concessions in prices. During the past month the shipments of lumber from this port were 8,831,043 feet, of which 7,469,660 feet were pine and 775,674 feet cypress. Other coastwise shipments were 1,335,000 shingles, 46,579 crossties and 923 feet of piling. Foreign shipments aggregated 585,709 feet of lumber and 32,000 shingles. The offering of vessels is more liberal, and a number of handy-sized schooners are expected to load during the present month. The Clyde Line steamers all go out with their usual complement of lumber, crossties and other wood products.

Mobile.

[From our own Correspondent.]

Mobile, Ala., August 6.

The general tone of the lumber and timber market continues very steady, and the improvement, though slight, is sufficient to indicate a fair average trade in timber and lumber during the fall months. Values of lumber are about the same as those ruling in January last, possibly 25 cents a thousand lower on certain grades. Prices on Cuban and South American lumber show a decided improvement, and the demand from these sources is fairly active. Of the general trade of this port for July the volume of business was very satisfactory. The exports reached \$909,143, or 100 per cent. increase over that of July last year. Exports to Cuba head the list with \$341,858, followed by England with \$238,541. Then comes Mexico with \$27,748, Honduras \$16,640, Colombia \$26,194, British Africa \$31,004, Guatemala \$310, Costa Rica \$11,081, British Honduras \$16,570, Scotland \$70,764, Netherlands \$55,015, Germany \$37,767, France \$20,687. The timber trade shows some favorable features, values being generally firm. At a meeting of the Lumber Export Bureau of Information, held here on the 1st, it was decided that sawn timber be held at 16 cents for the coming season. Prime lumber was placed at \$20 by the bureau. The report of Mr. Kil-duff, the secretary, showed that there were 60,000 pieces of timber at Ferry Pass, Fla., while stocks at Mobile were small and nearly all in shippers' hands. Logs were reported on the market at \$8 to \$11, with sales at the latter figure. Hewn timber is quoted at 15 to 15½ cents per cubic foot, basis of 100 cubic feet, average B1 good. There is a better demand for hewn oak at 15 to 18 cents per cubic foot, and hewn poplar is selling at 12 to 13 cents per cubic foot. The offering of vessels for carrying lumber and timber is better, and freights are steady, with rates unchanged.

Beaumont.

[From our own Correspondent.]

Beaumont, Texas, August 6.

The lumber market in this section is reported in a fair condition, and business during the past fortnight would have been of better volume were it not for the heavy rains prevailing. The effect of the wet weather has been disastrous to the country mills, and logging has been greatly restricted. A fair demand for lumber is now in order, and as the weather is fine millmen are enjoying a better volume of business. Orders for small yard stock

are coming in, and railroads are large buyers of timber and ties. Manufacturers in this section are of the opinion that the demand for lumber will be on the increase from this date, and a large volume of trade is almost certain during the fall months. The foreign demand for lumber and timber is improving steadily, and exporters find trade considerably restricted by scarcity of desirable tonnage. The Morgan Lumber Co. and the Sabine Export Co. have vessels loading at Sabine Pass for Europe, and several vessels are chartered to load for Mexican ports and River Platte during this month. A meeting of the stockholders of the Arm & Pin Co. was held last week in this city, and considerable business transacted. The capital stock of the company was increased from \$5000 to \$20,000. The general condition of the company was found to be satisfactory.

Lumber Notes.

J. Hill Jones of High Springs, Fla., is desirous of obtaining a market for a quantity of cedar trees and tops.

The schooner Harry O'Barrett cleared last week from Pensacola, Fla., for Philadelphia with 1,300,000 switch ties. This is probably the largest shipment that ever left that port.

The foreign shipments of timber and lumber from the port of Pensacola in July were smaller than any month since September, 1898, aggregating only 29,676,770 superficial feet.

The shipments of lumber from the port of Fernandina, Fla., for the month of July aggregated 7,844,245 feet, of which 5,971,158 feet were coastwise and 1,873,087 feet were foreign.

Shipments of lumber and other wood products from the port of Charleston, S. C., last week amounted to 1,500,000 feet, and for the season 53,767,575 feet, against 35,430,952 feet last season.

The foreign exports of lumber from the port of Mobile last week amounted to 911,349 superficial feet, and for the season 141,882,886 feet. Shipments of sawn timber amounted to 180,411 cubic feet.

The J. T. Hart Lumber Co. of Orange, Texas, has been chartered, with a capital stock of \$15,000. The incorporators are S. W. Sholuss, Leopold Miller, W. J. Wingate, R. Wingate and John T. Hart.

On the 3d inst. a fire broke out in the dry-kilns of the Texarkana Stave Co. of Texarkana, Ark., owned by the Little Rock Coopers Co. of Little Rock, destroying property to the amount of \$12,000; insurance not known.

The Fred Brenner Lumber Co. of Chattanooga, Tenn., has been incorporated, with a capital of \$40,000, and it is understood will establish a large lumber-yard in that city to supply the Southern trade from that point.

The Tunis Lumber Co. of Norfolk, Va., has laid a new railroad track from its mills at Berkeley to connect with the Belt Line Railroad. The company now has all its logs dumped in the pond at mill from cars, thereby saving expense and damage in rafting.

The half interest in the Romine & Dudley Lumber Co., operating a saw-mill near Parkersburg, W. Va., was sold on the 3d inst. by J. W. Dudley to J. M. Stone and C. D. Gates of Ripley, W. Va., and will hereafter be known as the Romine & Stone Lumber Co.

The lumber and shingle mills of E. R. Childers & Co. on Peace creek, near Fort Meade, Fla., have been shut down for a week or two to repair machinery. The firm have choice selection of wide cypress lumber on hand, and also a large stock of cypress shingles of three grades.

It is stated that a representative of the Chesapeake Lumber Co. of Baltimore is negotiating with a lumber concern of North Carolina for one of the largest shipments of lumber ever brought to Petersburg, Va. The deal, if consummated, will consist of 4,000,000 feet.

A fire was discovered on the 4th inst. in the lumber-yards of Barker & Stewart at Ashland, Wis., which spread rapidly to the Keystone Lumber Co.'s yards in that city, and in a short time about 50,000,000 feet of lumber was destroyed, including six tramways. The loss is placed at over \$1,000,000.

A meeting of the stockholders of the Texas Arm & Pin Co. was held in Beaumont, Texas, last week. The capital stock was increased from \$5000 to \$20,000. The general condition of the company was found to be very satisfactory. Mr. F. W. Greer is general manager of the company.

It is stated that William Fitzgibbons of Saranac, Mich., has purchased property in Knoxville, Tenn., and will consolidate and remove to the latter city his boat-car plants at La Grange, Ind., and Saranac, Mich. A large amount of ash timber in the Knoxville section has been purchased by Mr. Fitzgibbons.

The recent heavy rains in the mountains of Kentucky have swelled the streams to such an extent that the present tide in the Kentucky river is the greatest known for years, in consequence of which the lumber business is very active. It is estimated that last week there were about 300 rafts of logs on the way down the river, each containing not less than 17,000 feet.

Messrs. Saxton & Co. of Knoxville, Tenn., want to buy lumber—poplar one inch thick, 102 and up, eighteen inches and up and twenty-four inches and up, twelve, fourteen and sixteen feet, not exceeding 20 per cent. ten feet; also clear poplar saps, one inch thick, rough and dressed both sides, six inches and up wide, to average nine inches. The firm will furnish further specifications to inquirers.

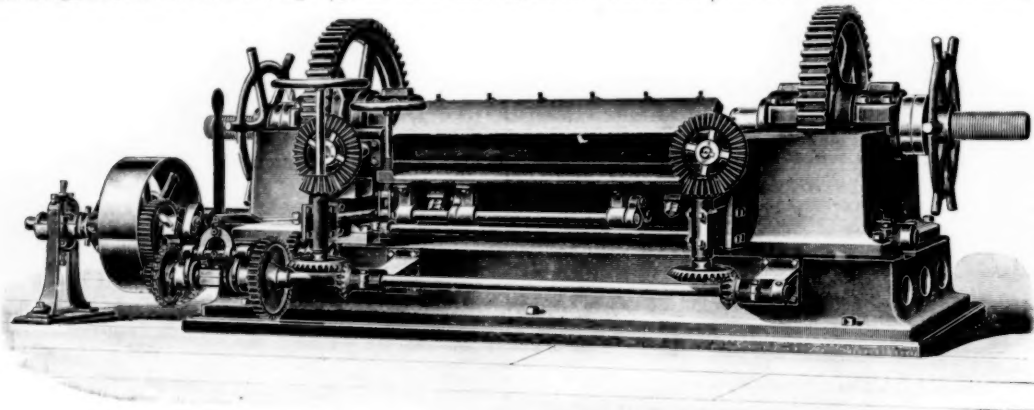
The monthly meeting of the Lumber Export Bureau of Information was held at Mobile on the 1st inst., with Capt. J. W. Black in the chair and Mr. W. J. Kil-duff, secretary. It was decided that sawn timber be held at 16 cents for the coming season. Prime lumber came up for discussion, and on motion that commodity was placed at \$20. The report of the secretary showed there were 60,000 pieces of timber at Ferry Pass, Fla., while the stocks at Mobile were small and nearly all in shippers' hands. Logs were reported on the Mobile market at from \$8 to \$11, according to quality, good timber logs selling at the latter figure. After further discussion of topics relating to the trade the meeting adjourned until the first Wednesday in September.

The Lumber Trade Journal of New Orleans has published complete statistics of the foreign wood and lumber exports from all Southern ports for the fiscal year ending June 30, and says: "In superficial feet the total amount of lumber and timber aggregates 1,616,961,492 feet, against a total of 1,330,496,902 feet in 1899, and against a total of 1,095,792,007 feet in 1898, and against 1,133,233,546 feet in 1897. The total exports were divided as follows: Sawn timber, 519,990,000; hewn timber, 3,606,041 cubic feet, equal to 43,272,492 superficial feet; logs and other manufactured timber in value, \$3,690,450; board, deals and planks, 715,093,000 feet; joists and scantling, 31,736,000 feet; shingles, number, 43,779,000; all other lumber, in value, \$912,601; staves, number, 35,174,204; manufactures of lumber in value, \$2,193,274.

MECHANICAL.

High-Grade Veneer Machine.

The conditions to be met in the production of high-grade veneers call for a machine of exceptionally massive design, large wearing surfaces and ample driving capacity, together with every other required convenience within the machine itself. We present an illustration showing general design and construction of a high-



VENEER MACHINE—DELIVERY SIDE.

grade veneer lathe. It will be observed that the machine is of extra heavy pattern and has a broad base and extra heavy headstocks which secure immunity from the strains which are attendant in all cases when veneers of any description are to be produced. To obtain these results a radical departure was made from the ordinary type of veneer lathes, and the machine illustrated shows the type.

The bed is cast in one piece, with surfaced end, to which the headstocks are attached. The headstocks are also cast in one piece, and are surfaced on the bottom, so as to perfectly fit the bed to which they are attached by means of dowel pins and bolts.

The machine is equipped with an adjustable carriage, so that the pitch of the knife may be changed to suit the requirements of the timber being cut.

Changing the pitch of the knife may be accomplished while the machine is running or standing still by simply turning a hand-wheel which is especially provided for the purpose. This is a very important feature, as all timber does not cut alike, some requiring more clearance between the knife and log than others. The

A device for dogging the logs and releasing the same by power can be attached, thus saving time and increasing the output of the machine.

Attachments for the independent fast movement of the carriage, both in and out, are furnished when desired.

The design, material and workmanship of this machine are especially commended to those who desire to purchase a modern and up-to-date veneer machine. All the joints which are subject to a tension are

planed, thus making the very best joint possible.

No sulphur or lead is used to make a joint in the machine. This feature will commend itself to those who have ever taken apart a machine which has been jointed up with the materials mentioned.

The machine may be all taken apart for transportation and assembled again by an ordinary mechanic, which is a decided advantage.

The headstocks are provided with dowel pins and the bed is drilled to receive the same, so that when the headstocks are placed in position and the dowel pins enter the holes in the bed the headstocks are in perfect alignment, one with the other.

Any wood or metal-working tool that performs its work between two centers must be so constructed that perfect alignment is maintained under all conditions to produce first-class work.

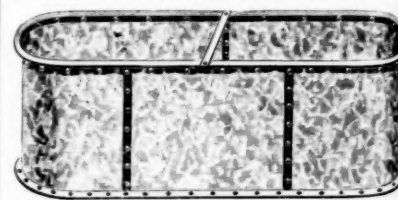
Every part that is subject to wear is made adjustable and perfect access is to be had to all parts without the removal of any other part. Five massive and well-proportioned pieces virtually constitute the machine, namely, a bed frame, two

yet, from its position, there is probably none that receives less.

We illustrate a new device for protecting the blow-off pipes of steam boilers. It consists of a sleeve or covering of cast iron divided lengthwise, and has ribs projecting inwardly that make an air space of about half an inch between the pipe and sleeve. When the sleeve is run through the rear wall, or even part of the way, if a small space is left open around the blow-off pipe the draft inward will

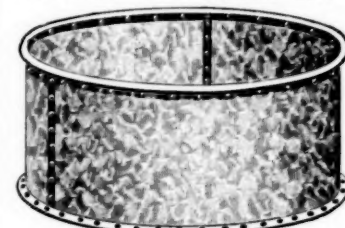
of the metal tank, and thousands of them are now in use, with the number constantly becoming larger.

The Kelly Foundry & Machine Co. introduced some years ago the Goshen galvanized steel tank, and it has been sold in every State in the Union and in various foreign countries. The company claims to be the pioneer in this industry, and makes the tank for a large number of uses. The Goshen galvanized steel stock-watering and reservoir tank is constructed after the company's individual designs, and of the best obtainable mate-



ROUND END TANK.

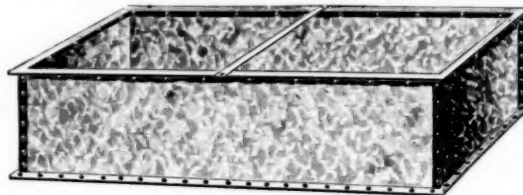
rials that the market affords. The general construction of the large and small sizes is identical, each increase in size receiving the increased thickness of steel and other improvements necessary to ensure retaining shape when a tank's capacity is entirely availed of. The sides and bottoms of these tanks are flanged together and riveted between two strips of metal, and all seams are formed in a similar manner. Lapped seams are not used, because the Kelly Company deems them unreliable. The top is surrounded by and riveted to angle steel. Rivets set closely together are depended upon to



ROUND TANK.

hold the tanks together and to strengthen them, and solder is used only to close the seams and thus prevent any leaking. The tanks are shipped either "knocked down" or ready for use as buyers prefer, with the preference being given by the maker to the "ready for use" form when possible to load on cars.

The Kelly production is not limited to tanks, three specimens of which are illustrated herewith, but includes implements, low-wagon wheels, tank heaters, wagon tanks and other specialties, all of which have earned a reputation for efficiency that keeps the Kelly foundry busily engaged to supply the demand.



SQUARE END TANK.

may address Edmund Mather of Harrisburg, Pa., for further information.

Goshen Galvanized Steel Tanks.

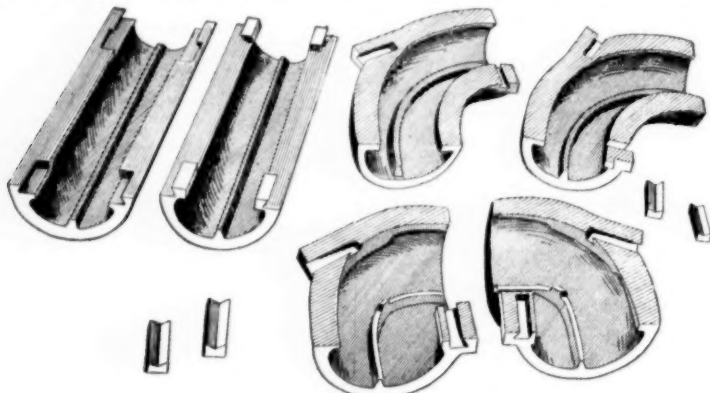
The introduction of metallic tanks to replace the old-fashioned wooden receptacles has been one of the improvements of the times. For the storage of water, for watering and feeding stock, for the smaller water-supply systems, and as a receptacle and conveyance for various other liquids the metallic tank has found an extensive use.

This use has resulted in a constantly-increasing popularity of the application

In the South the manufactured products mentioned above are enjoying a good trade, especially in Maryland, Virginia, Tennessee and Kentucky, and the company expects to increase this trade largely during the coming year.

Farmers, factory operators and those engaged in any branch of industry where galvanized steel tanks can be availed of are invited to correspond with the Kelly Foundry & Machine Co., 54 Pearl street, Goshen, Ind., for estimates or any information.

Tanks of any special design can be supplied to order.



PATENT BLOW-OFF PROTECTOR.

device for accomplishing this change of pitch is very simple in construction; in fact, anyone can comprehend it. It is durable and practical.

Each machine is equipped with pressure-bars which are adapted for the special kind of work that the machines are to produce, either with a solid steel-faced pressure-bar or one which is adjustable, so that the pressure edge of the bar may be adjusted to comply with the irregularities of the cutting edge of the knife.

headstocks, a knife carriage and a pressure-bar.

The drive shaft is underneath the carriage, giving free access to the chucks from both sides of the machine.

For further facts address the maker, the Crowell Clutch & Pulley Co. of Westfield, N. Y.

Patent Blow-Off Protector.

No attachment to a boiler should receive more care than the blow-off pipe,

New Types of Enclosed Arc Lamps.

The enclosed arc lamps shown in the accompanying illustrations have been designed to operate in series on any direct-current constant potential circuit of 200 volts or above, the only limitation being that each lamp shall have at least ninety volts and not more than 125 volts at the terminals. The most customary condi-

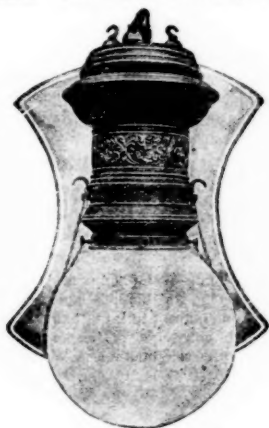
and giving full access to the carbon-holders for retrimming. It will also be noticed from the illustrations that just above the inner globe the lamp is equipped with a porcelain-lined metal reflector, and much of the light from the arc otherwise diffused is reflected down, thus increasing the useful illuminating power of the lamp.

The length of lamp with globe is twenty-

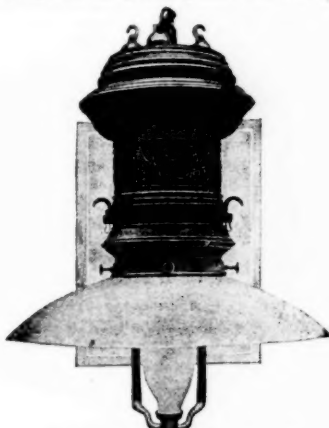
seen to the right in the reproduction is equipped for manufacturing cross-cut saw handles, hand-saw handles, wood-saw frames and similar products. The building in the rear is five stories high, 60x190 feet in size, and contains all the latest machinery and appliances for the production of band saws, the tempering, grinding and other necessary processes used being of Mr. Atkins' invention. At the

lumber enters as a part of industrial activity Atkins' saws and tools, mill tools are used extensively. Branch offices at Memphis, Tenn.; Atlanta, Ga.; Minneapolis, Minn., and Portland, Ore., distribute the product throughout this country. At the Paris Exposition the company has a handsome exhibition, which is attracting much attention from both visitors and companion exhibitors.

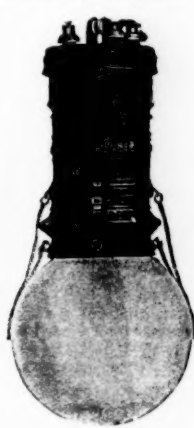
The reputation of Atkins' saws and mill tools, etc., for durability and efficiency is constantly extending the company's trade, and its facilities have lately been urged to the utmost to promptly fill the orders



12-Inch Round Outer Globe.



Porcelain Reflector for Indoor Use.



Round Globe.

SOME NEW TYPES OF ENCLOSED ARC LAMPS.

tions under which this lamp is operated are two in series on 200 to 250-volt light and power circuits, and five in series on 450 to 600-volt power and railway circuits.

The manufacturer has aimed to fill a long-felt want, especially among street-railway companies, for a thoroughly reliable multiple series lamp, simple in design, yet at the same time thoroughly substantial and efficient, giving 150 hours' life with one 12-inch by 1/2-inch solid carbon.

The great difficulty with multiple series lamps, which is necessarily magnified as the number of lamps in the series is increased, is said to have been to secure their perfect regulation and avoid the lamps "see-sawing" or "robbing each other" of their share of the potential of the circuit. This difficulty is claimed to have been entirely overcome by using the differential method of regulation and by giving the most careful attention to the design of the shunt and series winding, and to the magnetic circuit of the lamp. The results obtained have been extremely satisfactory, says the manufacturer, the General Incandescent Light Co., 572 First avenue, New York.

Each lamp is equipped with an equalizing resistance, which, by means of a carefully-designed cut-out, is automatically cut into the circuit in case the carbon should stick or burn out, thus balancing the circuit and allowing the remaining lamps in the series to continue burning without interruption. In the event of any lamp needing trimming or adjustment, a hand-switch is provided on each lamp, which cuts in the equalizing resistance, allowing the lamp to be trimmed or adjusted without affecting any of the other lamps in the series. By the use of carefully-designed windings, which are of larger cross-section than ordinarily used, and an automatic cut-out, it is practically impossible to burn out the shunt windings.

A distinctive feature of the lamp is a new shadowless and at the same time substantial trimming device, on the design and perfection of which a great amount of time has been spent. The device presents the least possible obstruction to the light, and necessarily casts the minimum shadow. By pulling the trimming device down against the tension of the springs shown it may, on account of it being hinged, be moved backward or forward, allowing the globe to be easily removed

five inches; with reflector, only twenty-three inches.

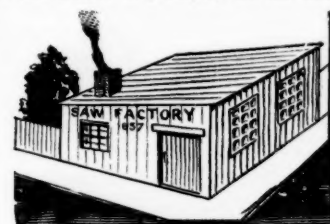
The Atkins Saw Works.

A class of machinery that has entered largely into the industrial development of this country is that in which is included the saws, saw tools and saw-mill specialties that enter into the complete equipment of saw and planing mills and other woodworking factories. The manufacture of the saws and other machines referred to has developed into one of the most important enterprises of America. A leading pioneer in this branch of industrial life was Mr. E. C. Atkins, who first engaged in the manufacture of saws in 1857, occupying the small factory which

back of this building is being erected another fireproof structure, to be four stories high, 150x150 feet, to be equipped as a tempering shop. This is being built under Mr. Atkins' direct supervision.

Other buildings will be erected later on, the necessary land for sites having been purchased recently.

The plant of Messrs. E. C. Atkins & Co. (Incorporated) at Indianapolis, Ind., manufactures every kind of saw known to the trade, both solid and inserted tooth, besides a number of hardware specialties, such as plastering trowels, slaw cutters, flour testers, bench scrapers, corn knives, cane knives, etc. Another branch of the business is the production of such mill specialties as saw guides and rounders,

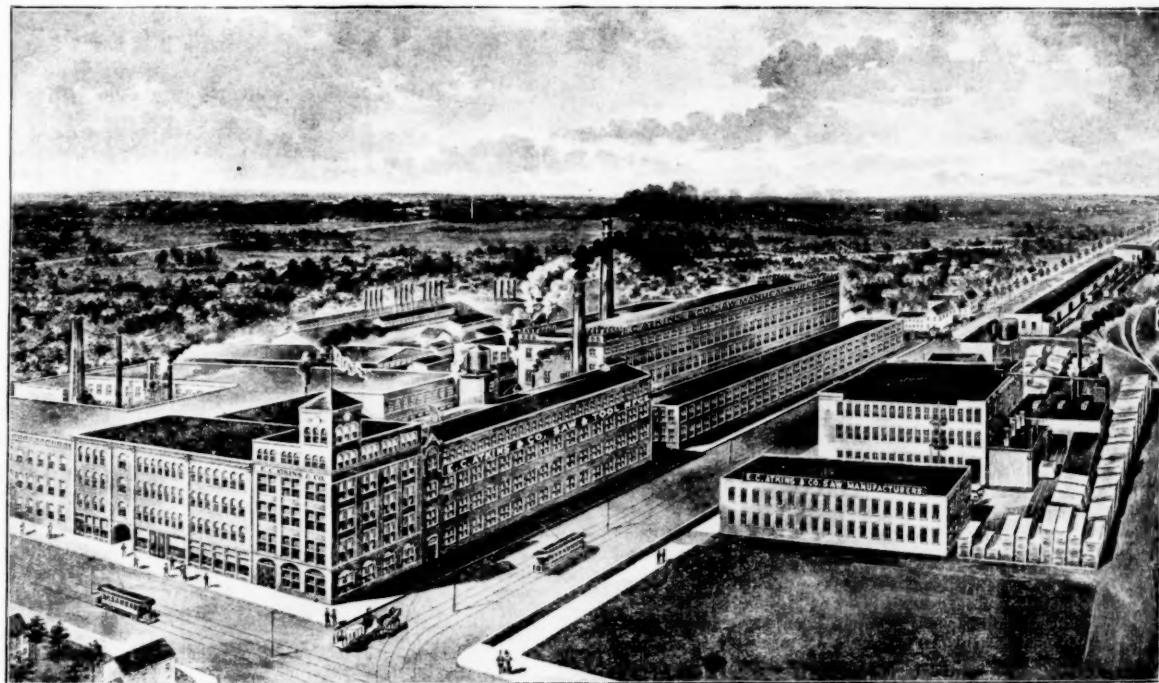


ATKINS SAW WORKS IN 1857.

that have been received. It is because of this increasing trade that the enlargements mentioned above have been undertaken. Both present and prospective operators of saw and planing mills and woodworking factories are advised to consult with this world-wide thoroughly competent manufacturer when about to equip new plants or add to those now in existence. Interesting literature may be obtained on application. Mr. E. C. Atkins is president; H. C. Atkins, vice-president, and N. A. Gladding, secretary.

Susquehanna Water Power.

It is stated that arrangements have nearly been completed to float the securities which the Susquehanna Electric Power Co. proposes issuing to carry out its plans. As already stated in the Manufacturers' Record, the company proposes utilizing water-power from the Susquehanna river for electrical purposes.



ATKINS SAW WORKS IN 1900.

is illustrated herewith. Mr. Atkins had received a scientific education in all theories and methods for the production of steel up to the finished product, and was therefore able to evolve from small beginnings the mammoth plant which is illustrated herewith. This is stated to be the largest exclusive saw-manufacturing plant in the world.

The complete plant covers about ten acres of actual floor space. The building

anvils, swages, side files, mill dogs, brazing tables, mandrels and many other tools used in saw and planing mills and general woodworking factories.

The saws produced by this mammoth establishment have a reputation that extends throughout this country and Europe, and the foreign trade has been growing rapidly during the last few years.

In all sections wherein the working of

It is calculated that fully 40,000 horsepower can be developed at the site selected. It is understood that the company is to be capitalized at \$12,000,000, and that the same amount of bonds will be issued, although but \$4,000,000 will be placed on the market in the near future. The current is to be conveyed to Baltimore and utilized to operate the street railway system, also to furnish illumination.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted." In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

ALABAMA.

Anniston—Gas and Oil-Land Development. It is reported that J. C. Cohenolr has discovered gas and oil extending from Cobb City to within five miles of Anniston, and that he will develop same.

Anniston—Electric-light Plant.—The Anniston Manufacturing Co. has contracted for the installation of an electric-lighting plant in its cotton mill.

Beaver Meadow—Saw-mill.—The Bradley Lumber Co., reported lately as incorporated, will build a saw-mill of 30,000 feet capacity daily, with 15,000-foot capacity dry-kiln and other equipment. The company will cut a tract of virgin timber which it has purchased. Saw-mill equipment has been ordered, and will cost complete about \$6000; E. G. Bradley, secretary, Citronelle, Ala.*

Birmingham—Yarn and Knitting Mill.—Louis H. Mason, 231 Morris avenue, contemplates establishing a mill to manufacture yarn and knit same into underwear; capacity to be 300 dozen per day.*

Birmingham—Coal Mines.—The Block Coal Co. has been incorporated by June P. Wright and W. S. Pierce of Birmingham, H. L. McConnell of Mobile, R. H. Turner of East Lake and others to conduct a general mining and quarrying business; capital stock is \$14,000.

Dothan—Electric-light Plant.—The city will install an electric-light plant of 1500 incandescent light capacity, as lately reported; H. A. Pearce, mayor.*

Florence — Electric-light Plant. — E. J. O'Bierne of Birmingham, Ala., has made a proposition to the city of Florence to establish an electric-light plant.

Greensboro—Ginnery.—Blount & Ward are establishing a ginnery, as lately reported; will operate six 70-saw gins.*

Huntsville—Brick and Tile Factory.—Minnesota parties are investigating with a view of establishing a brick and tile factory in Huntsville, the Thompson Land & Investment Co. being interested.

New Castle—Coal Mines.—The Pearson Coal & Iron Co. has completed slope and commenced the development of its coal deposits.

Tulsa (not a postoffice)—Coal Mine.—The Moss Mining Co. of Birmingham will open

new coal mines near Tulsa, which will be ready within sixty days to begin shipment.

ARKANSAS.

Eureka Springs—Stone Quarries.—The Beaver Stone Co. has been incorporated, with capital stock of \$50,000, by W. M. Duncan (president), Mark Hollingsworth and M. D. Jordan.

FLORIDA.

Fort Myers—Saw-mill.—William Hansbee & Son will establish a saw-mill.

Gainesville — Palmetto Factory. — John Chestnut and G. W. Moyers will establish a palmetto factory with capacity of two tons of fiber daily; new building will be erected.

Jacksonville — Terminal Facilities. — The Mayport Terminal Co. has been chartered for construction of wharves, dry-docks, warehouses, elevators, marine ways, etc.; J. R. Parrott, president; A. G. Hamlin, vice-president; A. V. S. Smith, secretary, and H. S. Jenison, treasurer; capital stock is \$10,000.

Miami—Stone Quarries.—The Crystal Rock Manufacturing Co. is installing plant for transforming native rock into building blocks; the rock will be cut with saws.

Palatka — Hoop Factory. — The Jordan-Davis Hoop Co. has been incorporated by E. D. Jordan and H. A. Davis to manufacture coil hoops. Machinery has been ordered.

Tampa—Cigar Factory.—A \$100,000 stock company is being formed to build a cigar factory; names of interested parties to be stated later.

GEORGIA.

Abbeville—Saw-mill.—Garbutt Bros. are erecting another saw-mill.

Atlanta—Roofing Works.—The Southern Roofing Manufacturing Co., J. F. Hoofman, president, will rebuild its \$7000 plant, reported burned.

Atlanta—Coffin Factory.—J. H. Simmons and associates will erect a coffin factory. Address care of Austell Building.*

Augusta — Water Mains.—The city has about decided to install \$40,000 worth of new pipes to extend its water mains. Nisbet Wingfield, commissioner of public works, is preparing plans and estimates.

Cedartown—Yarn and Knitting Mill.—Paul D. Baugh (of Philadelphia, Pa.) has organized the Josephine Knitting and Spinning Mills to erect mill with capacity of about 400 dozen a day and make its own yarn. Address Mr. Baugh at Cedartown.

Cedartown—Spinning and Knitting Mill.—Daniel Baugh and Edwin P. Baugh, Jr., of Philadelphia, Pa.; George H. Wade, Paul D. Baugh and Louis D. Wade of Cedartown have incorporated the Josephine Mills, with capital stock of \$100,000, for the establishment of a textile mill. It is proposed to install spindles to spin yarns and knitters to manufacture same into fine underwear, daily capacity to be 400 dozen garments. Address Paul D. Baugh, Cedartown, for further particulars.

Chickamauga—Butter-dish Factory.—The Chickamauga Manufacturing Co., manufacturer of crates, etc., will install additional machinery for the manufacture of butter dishes.

Columbus—Ice Factory.—The People's Ice Manufacturing Co. has been incorporated for the manufacture of ice, with a capital stock of \$18,000, by W. L. Tillman, W. R. Brown and Geo. B. Whiteside.

Dahlonega—Copper and Gold Mines.—A. Winfield Schmidt has optioned from John L. and S. S. Gaddis 380 acres of land near Dahlonega containing copper and gold, and will develop the property.

Dublin—Telephone System.—The Georgia Telephone Co. of Savannah, Ga., will, it is said, build a long-distance telephone line from Savannah to Macon via Dublin.

Eastman—Knitting Mill.—A company has been organized, with capital stock of \$10,000, for the establishment of a knitting mill. N. Wynne is president, and Park Hooper, secretary.

Macon—Telephone System.—Efforts are being made for the establishment of a telephone system; an ordinance has been introduced in the city council granting franchise to a new company. John C. Van Syckel is interested.

Macon—Real Estate Company.—H. Horne, George B. Turpin, George R. Turpin and Walter H. Turpin have incorporated as Horne & Turpin to conduct a general real

estate, brokerage and loan business; the capital stock is \$5000, with privilege of increasing to \$50,000.

Macon—Telephone System.—W. A. Bisbee and associates have applied for franchise for construction of a telephone system.

Macon—Foundry.—The Central of Georgia Railway is building a large foundry in connection with its machine shops; J. M. Egan, president, Savannah, Ga.

Marietta—Chair and Table Factory.—R. B. Simpson will form a \$25,000 stock company for the manufacture of chairs and tables and to operate saw-mill.*

Milledgeville — Commission Company. — Samuel Evans and others have incorporated as Samuel Evans, Sons & Co. to conduct general warehouse, supply and commission business; capital stock \$25,000.

Rome—Undertaking Company.—Frank L. West, Joseph J. Hamilton, D. B. Hamilton and others have incorporated the Frank L. West Burial Co., with capital of \$5000, to conduct general undertaker's and furniture business.

Savannah—Chemical Works.—C. W. Billinger, G. A. Breck and Jacob Gazan have incorporated the Pine Tar Chemical Co. to rebuild burned works on a larger scale; the capital is \$18,000, with privilege of increasing to \$200,000.

Thomaston—Cottonseed-oil Mill.—W. F. Baker of Atlanta, C. A. McDaniel, F. J. Cooleage, John D. Malsby of Thomaston and others have incorporated the Upson County Oil Mills for the establishment of a 40-ton cottonseed-oil mill; company will also operate its own electric-light plant; the capital stock is \$25,000, with privilege of increasing to \$100,000.

Wrightsville — Electric-light Plant. — The city has voted in favor of the proposed issuance of \$15,000 for erecting an electric-light plant and constructing water-works. Address "The Mayor."

KENTUCKY.

Cave City—Onyx Quarries.—The Kentucky Onyx Co., reported recently as incorporated, will quarry and prepare for market onyx found near Cave City; also will erect mills for sawing and polishing the product. Address for other particulars J. V. Dittmore, secretary, Indianapolis, Ind.

Georgetown — Electric-light Plant and Water-works.—R. W. Nelson, mayor, Newport, Ky., has purchased the eGeorgetown water-works and electric-light plant for \$30,000.

Louisville—Flour Mill.—The Ballard & Ballard Company, reported lately to build a new steel building for its flour mill, states that it is building a new boiler and engine room only, and will not make any other improvements for some time.

Louisville — Tobacco Factory. — Nat F. Dortch & Sons will establish tobacco factory in Louisville, as lately reported, removing their plant from Nashville, Tenn.*

Marion—Fluor-spar Mines.—John R. McLean of Washington, D. C., has no interest whatever in the operation of fluor-spar at Marion. It was reported recently that Mr. McLean was operating the Rose Clare mines in Crittenden county.

Mayfield—Tobacco Factory.—A company has been organized, with capital stock of \$65,000, for the establishment of a tobacco factory. Names of interested parties will be announced later.

Oldham—Milling.—The La Grange Milling Co. has been incorporated, with capital of \$1200, by D. H. French and others.

Owenton—Ice Factory.—J. A. Johnson will install a three to five-ton ice plant.*

Paducah—Tobacco Factory.—George Flournoy and D. M. Flournoy have organized as Flournoy Bros. for the establishment of a tobacco factory, with capacity of 1200 pounds of finished product per day.

Somerset—Cotton Mill.—Efforts will be made to organize a stock company for the establishment of a cotton mill. Address J. P. Hornaday, chairman public improvement committee.*

LOUISIANA.

Alexandria—Sewerage System.—F. S. Hoyt of Fort Dodge, Iowa, has received contract at \$21,773.29 for construction of the proposed sewerage system at Alexandria.

Converse—Saw-mill.—Kansas parties have purchased 16,000 acres of land in and around Converse and will, it is said, erect large saw-mill for development. Names of interested parties will be announced later.

Lake Charles — Irrigation. — The Black Bayou Irrigation Co., Limited, has been incorporated, with capital stock of \$10,000, for construction of an irrigation plant; company has 800 acres of rice land planted and under cultivation. Dr. A. J. Perkins is president; Wm. F. Malone, vice-president, and Harry J. Geary, secretary and treasurer.

Leesville—Electric-light Plant.—It is stated that an electric-lighting plant will be built for town's supply, and the Nona Mills Co. is mentioned as interested.

New Orleans—Stone Quarries, etc.—The New Orleans Sand & Gravel Co. has been incorporated to mine stone, sand, gravel, etc., by Jonas H. Levy, president; Sam Hyman, vice-president; Alfred Hiller, secretary and treasurer; capital stock \$50,000.

New Orleans—Telephone and Telegraph Systems.—The National District Telegraph Co. of Louisiana, Limited, has been incorporated to construct and operate systems of telegraph, telephone and electrical service; capital stock is \$100,000; H. D. Bennett, president; J. M. Stephens, vice-president; G. R. Johnson, secretary, and C. H. Haight, superintendent.

New Orleans—Pipe Line.—It is reported that Frederick P. Morrill and Edward F. Cragin, both of New York, have submitted a proposition to construct a \$12,000,000 pipe line for furnishing the city with 50,000,000 gallons of water per day.

New Orleans—Machinery Works.—John Maxent, C. R. Cockle and others have incorporated the Safety Electric Manufacturing Co., with capital stock of \$35,000, to manufacture machinery, articles of tin, etc., and conduct a general mechanical business.

MARYLAND.

Baltimore—Commission.—The S. B. Marts Co. has been incorporated for conducting a ship-brokerage and commission business, by Samuel B. Marts, Joseph W. Brooks, A. D. Foster and others; capital stock \$5000.

Baltimore—Mercantile.—The Pyramid Investment Co. has been incorporated to conduct general mercantile business, by William G. Roberts and others; capital stock \$50,000.

Baltimore—Ice Factory.—The York Ice & Coal Co. has been incorporated for manufacturing ice and dealing in coal and wood; capital stock is \$50,000; incorporators, John P. Brandau, Christian Brandau, Harry B. Cook and others.

Centerville—Cotton Mill.—Efforts are being made to organize a \$50,000 company for the establishment of a cotton mill; \$35,000 has been subscribed. Names of interested parties will be announced later.

Kensington—Land Company.—The Maryland Land & Building Co. has been incorporated, with Thomas R. Martin of Kensington, president; capital stock \$25,000.

Laurel—Electric-light Plant and Water-works.—The city will purchase the lighting plant of the Laurel Electric Co. and operate it in connection with its proposed water-works (lately reported); standpipe to be erected will be 100 feet high and have capacity of 100,000 gallons. Hill, Quick & Allen of Baltimore have prepared plans for construction, and bids will be asked for material. City is to issue \$45,000 of bonds for construction of works and purchase of electric plant. Address "The Mayor."

Luke—Coal Mines.—Luke Bros. of Piedmont, W. Va., have purchased Andrew J. Merrill's coal lands near Luke, will develop same and construct a plane for dumping coal.

Owings Mills—Land Improvement.—The Caves Development Co. will be incorporated for the purpose of developing and improving 1500 acres of land in Baltimore county. Among those interested are Wilbur F. Jackson, John Gill, Jr., and Harry Preston, all of Baltimore.

Washington, D. C.—Laundry.—The Crescent Laundry Co. has been incorporated, with authorized capital of \$100,000, by T. Hill Marshall of Washington, Geo. H. Shrewsbury of Charleston, W. Va.; B. A. Caruthers of Parkersburg, W. Va., and others.

Washington, D. C.—Pump Company.—The Emerson Pump Co. has been incorporated, with capital stock of \$200,000, by T. H. McKee, J. H. G. Martin, R. Young and others.

Washington, D. C.—Gun Company.—The Victor P. De Knight Gun Co. has been incorporated under the laws of Delaware, with capital stock of \$1,000,000.

MISSISSIPPI.

Hattiesburg—Woodworking Factory.—F. F. Phillips, S. C. Tucker, C. W. Rich, G. O. L. Hawkins and others have incorporated the Hattiesburg Manufacturing Co. for the manufacture of sash, doors, blinds, etc.; capital stock is \$20,000, with privilege of increasing to \$100,000. This company was lately reported as to be organized.

MISSOURI.

Carthage—Mining.—The Howard Mining Co. has been incorporated, with capital stock of \$50,000, by Arthur L. Moore, G. H. Haines, R. F. Glenn and others.

Hermann—Milling.—The Klinger Milling Co. has been incorporated, with capital stock of \$20,000, by W. Klinger, R. Klinger, both of Hermann; C. Regal of St. Louis and others.

Kansas City—Bakery.—The Ingram Pie Co. will erect a pie bakery 75x100 feet to cost \$10,000.

Joplin—Lead and Zinc Mines.—Chartered: The Commander Zinc & Lead Co., capital stock \$100,000, by W. O. Coats, Fred Wells and A. A. Coats.

Joplin—Mining.—The Owensboro Joplin Mining Co. has been incorporated, with capital stock of \$100,000, by E. T. Gunther, J. W. McCullough, D. C. Miller and others, all of Owensboro, Ky.

New Madrid—Land and Lumber Company.—Chartered: The Mann & Garandis Land & Lumber Co., with capital stock of \$20,000, by David Mann, W. H. Garandis and others.

St. Louis—Elevator and Grain Company.—The Brooklyn Elevator & Grain Co. has been incorporated, with capital stock of \$500, by W. D. Judd, J. O. Rourke and P. P. Bliss.

St. Louis—Chemical Company.—Incorporated: The Royal Chemical Co., capital stock \$200, by Charles W. Bardeheier, Charles A. Kausher and Flora Gardenheier.

St. Louis—Shoe Factory.—The Laprelle Williams Shoe Co., reported recently as incorporated, with capital stock of \$600,000, will establish a shoe factory and will, within the next ninety days, want bids on machinery, etc. Address J. H. Williams.*

St. Louis—Lead and Zinc Mines.—The Little Shasta Gold Mining & Milling Co. has been incorporated, with capital stock of \$600,000, by C. W. Welsenberg, J. W. Benstein, H. L. Schaefer and others.

NORTH CAROLINA.

Charlotte—Brass Foundry.—The General Fire Equipment Co., Jno. W. Arrington, treasurer, will install a brass foundry in connection with its present business of general pipefitting and mill repairs.

Concord—Gas Plant.—Parties desiring to invest in a gas plant can obtain information by addressing W. M. Smith.

Elizabeth City—Cotton Mill.—The Elizabeth City Cotton Mills, operating 8600 spindles, is reported as installing \$40,000 worth of additional machinery.

Morven—Knitting Mill or Oil Mill.—Gardner, Liles & Co. contemplate the establishment next season of a plant for the manufacture of cotton underwear, or a cottonseed-oil mill.

Murphy—Tale Mines.—George Taylor of New York, who recently purchased the Hiller tale property, near Murphy, is renovating the plant and preparing to mine and grind the tale.

Raleigh—Water-works Enlargement.—The Raleigh Water Co., E. B. Bain, superintendent, contemplates doubling its filtering capacity, as lately reported, but has not as yet completed arrangements.

Wilson—Tobacco Factory.—H. G. Whitehead, Wm. Carter, J. S. Meade and others are the incorporators of the Carter & Whitehead Co., reported last week.

SOUTH CAROLINA.

Bowling Green—Cotton-oil Mill.—R. M. Dulin wants information regarding the establishment of a cottonseed-oil mill.*

Camden—Lumber Company.—The Camden Lumber Co. has been chartered, with capital of \$2500, by R. B. Scarborough, C. C. Moore and R. B. Team.

Charleston—Bag Factory.—George A. Wagener (address care of Royal Bag Co.) and others will organize a \$150,000 stock company for the establishment of a seamless cotton-bag factory.

Cheraw.—Chartered: The Gregory-Johnson Mule Co., to conduct a general stock, machinery, cotton and merchandise business, by W. T. Gregory, H. M. Johnson of Lancaster and others; capital stock \$10,000.

Clearwater (not a postoffice)—Bleachery.—The Clearwater Bleachery & Manufac-

turing Co., previously reported as incorporated, with capital stock of \$300,000, has let contract for the erection of a \$50,000 building to T. O. Brown; equipment of machinery for bleaching cotton goods will be installed when building is completed; Thomas Barrett, Jr., Augusta, Ga., president.

Greenville—Drug Company.—Chartered: The Greenville Drug Co., with capital stock of \$35,000, by J. B. Bruce, W. A. Davies and others.

Newberry—Mercantile.—Chartered: The Ewart-Pifer Company, with capital stock of \$5000, by Wm. F. Ewart and D. F. Pifer.

Parkville—Water-power Development.—Thomas Barrett, Jr., of Augusta, Ga., and associates have sold the Ring Jaw shoals property on the Savannah river, near Parkville, to parties who have incorporated the Twin City Power Co. to construct dams, canals and other works for the purpose of developing the water-power and transmit electricity. It is said that \$1,000,000 will be invested. Among the incorporators of the company are Samuel Taylor, 245 West One Hundred and Twentieth street, New York; W. H. Chew, 1855 Seventh avenue, New York, and D. M. Mackay, 18 Neptune Place, New Rochelle, New York. Address the company at 1402 Main street, Columbia, S. C.

Spartanburg—Street Paving.—The city will hold an election August 10 to decide the issuance of \$50,000 for street-paving purposes. Address "The Mayor."

Sumter—Woodworking Factory, etc.—The Sumter Hardwood Co. will put in machinery for manufacturing handles, golf sticks, etc.; also a small band mill and two band saws.*

TENNESSEE.

Chattanooga—Electric-light Plant.—The New Southern Hotel, F. A. Lincoln, manager, will install an electric-light plant.*

Clarksville—Lumber Company.—The J. H. McFall Lumber Co. has been incorporated to purchase timber lands and manufacture lumber, etc., by Wesley Drane, J. M. Macrae, M. Savage, Samuel Ford and H. N. Leech; capital stock \$25,000.

Clinton—Woodworking Factory.—See item under Knoxville.

Harriman—Medicine Company.—The Southern Medicine Co. has been incorporated by F. H. Burt (president) and others for the manufacture of a hair tonic.

Hickman—Handle Factory.—The Hickman Handle Co., reported lately as incorporated, manufactures all kinds of handles, and is installing machinery to manufacture curtain poles, window-shade rollers, etc.; W. G. Liggett, president.

Jones Valley—Planing Mill.—F. L. Estes has purchased machinery and will operate a planing mill in connection with his saw-mill and wagon-stock factory.

Knoxville—Woodworking Factory.—J. Elwood Cox and H. E. Cortland of North Carolina (probably High Point, N. C.) are investigating with a view to establishing a bobbin and shuttle-cock factory either at Knoxville or Clinton.

Knoxville—Woolen Mill.—The Riverside Woolen Mills is installing a finishing machine; company manufactures yarns, but will soon begin the manufacture of a high grade of suit cloth.

Knoxville—Flour Mill.—The Scott Mill Co. has installed some additional machinery.

Knoxville—Oar Factory.—Williams Fitzgibbons of Saranac, Mich., noted last week as contemplating removal of oar factory to Knoxville, has decided to take the step. Mr. Fitzgibbons will also remove his La Grange (Ind.) factory to Knoxville. Ash timber lands have been purchased.

Mine Lick Station (P. O. at Al)—Furniture Factory.—The Atlantic Lumber Co. of Nashville, Tenn., will establish a furniture factory at Mine Lick; fifteen machines will be installed and have been contracted for; buildings are in course of erection; new band saw-mill has also been purchased for installation.

Nashville—Drug Company.—W. W. Williams, C. C. Christopher, A. N. Flite and others have incorporated the Mississippi Valley Manufacturing Co. for manufacturing and compounding drugs, etc.; capital stock \$50,000.

Rockwood—Brewery.—A. R. Humes contemplates the establishment of a brewery, and desires plans and specifications, etc.*

TEXAS.

Alexander—Cotton Compress.—The American Cotton Co. of New York will build a \$7000 round-lap-bale compress in Alexander.

Beaumont—Arm and Pin Factory.—The Texas Arm & Pin Co. has increased its capital stock from \$5000 to \$20,000.

Beaumont—Terminals.—The Beaumont Wharf & Terminal Co. will issue bonds for \$103,000 and \$60,000 in stock for the construction of extensive terminals; a further expenditure for railroad repair and machine shops is intended; W. S. Davidson, president.

Bridgeport—Flour Mill and Elevator.—Chartered: The Bridgeport Mill & Elevator Co., capital stock \$10,000, to build flour mill and grain elevator, by G. A. Perkins, I. T. Hartsell, W. P. Roberts and others.

Corpus Christi—Irrigating System.—F. P. McMullen contemplates organizing a company to dam the Nueces river and establish an irrigation system on a large scale.

Dallas—Box Factory.—The Phillips Box Manufacturing Co. has been incorporated, with capital stock of \$5000, to manufacture boxes and woodenware, by J. S. Phillips, Harrison B. Cave and T. D. Phillips.

Dallas—Saddle, etc., Factory.—Speer, Steinhmann & Co., reported lately as incorporated, has factory already established.

El Paso—Mercantile.—Chartered: Brown & Manzaneras Company, with capital stock of \$25,000, by Cecil W. Brown and others.

El Paso—Machine Shops.—It is reported that the Southern Pacific Railroad Co. will establish extensive shops at El Paso; C. H. Tweed, second vice-president, New York, N. Y.

Grand Saline—Salt Company.—The Grand Saline Salt Co. has been incorporated, with capital stock of \$100,000, by James Harrison, Henry Exall and J. M. Dickson.

Houston—Purification Plant and Sewerage System.—Some months ago the city voted to involve about \$200,000. The construction of purification plant and intercepting sewerage system. Contract for the work, which is now in progress, has been awarded to T. J. Shea, the expenditure to involve about \$200,000. The construction of these plants is the result of an appropriation granted by the national government of over \$400,000 for a deep-water channel from the jetties at Galveston to Houston, provided the city of Houston should take its sewerage out of Buffalo bayou.

Houston—Paper-box Factory.—Henry Alexander has established a paper-box factory.

Lockhart—Mercantile.—Chartered: The Lockhart Grocery Co., capital stock \$50,000, by I. R. Heidenheimer and others.

Orange—Lumber Company.—The J. T. Hart Lumber Co. has been incorporated, with capital stock of \$15,000, by S. W. Sholars, W. J. Wingate and John T. Hart.

Sabine—Grain Elevator.—The Sabine Land & Improvement Co. contemplates establishing the grain elevator reported last week.

Van Alstyne—Mill and Elevator.—The North Texas Mill, Elevator & Grain Co. has been incorporated, with capital stock of \$15,000, by A. E. Turner, W. R. Cannon and others.

Waco—Drug Company.—Chartered: The Pipkin-Blair Drug Co., with capital stock of \$2000, by F. M. Blair, W. P. Pipkin and others.

Wichita Falls—Water-works, Irrigation, etc.—I. H. Kemper of Galveston and others have formed a company for irrigation purposes in Wichita county, as lately reported under Fort Worth, and for supplying water-works to Wichita Falls.

VIRGINIA.

Alexandria—Envelope Factory.—It is said a company has been formed under New Jersey laws with J. M. Hill, vice-president, and T. S. Hopkins, treasurer, for the establishment of an envelope factory with daily capacity of 500,000 envelopes.

Danville—Cattle-food Company.—The Virginia Cattle Food Co. has been chartered, with capital stock of \$25,000, by J. P. Swanson and others.

Falls Church—Telephone System.—The Falls Church Telephone & Telegraph Co., reported lately as incorporated, has purchased the telephone plant of M. E. Church and will probably build 100 miles of line during the present season, material for which will be needed. Address M. E. Church.*

Fredericksburg—Woolen Mills.—The Washington Woolen Mills is making extensive improvements.

Fredericksburg—Flour Mill.—The company reported recently to be formed by Paul Karsten and others for establishing a flour mill has incorporated as the Fredericksburg Milling Co., with capital stock of \$5000.

Lynchburg—Clothing Factory.—Guggenheimer & Co. have incorporated for the manufacture of clothing, with capital stock of \$200,000. Max Guggenheimer, Jr., is president; Edward F. Sheffey, secretary.

Lynchburg—Fertilizer Factory.—The Virginia State Fertilizer Co. of Farmville has purchased forty acres of land at Lynchburg, and will erect a fertilizer factory to cost between \$60,000 and \$100,000; its entire plant will be removed to new site.

Manassas—Cannery, etc.—The Manassas Canning & Pickling Co. has been incorporated, with capital stock of \$3000, by D. J. Arrington, R. B. Thornton, J. T. Baker and others.

Newport News—Shipbuilding-plant Improvements.—The Newport News Shipbuilding & Dry-Dock Co. contemplates the erection of a large overhead steel traveling crane, which, when completed, will give the yard building capacity for four more small steamers or two large vessels; C. B. Orcutt, vice-president, No. 1 Broadway, New York.

Newport News—Steel Plant.—A dispatch states that C. P. Huntington of New York will build a \$1,000,000 steel plant at Newport News for the manufacture of material used in the construction of ships at the yards of the Newport News Shipbuilding & Dry-Dock Co. Mr. Huntington telegraphs the Manufacturers' Record that he is not intending to build any steel works in the near future.

Newport News—Knitting Mill.—A. H. Cobb of Suffolk, who established an experimental knitting mill in Newport News some weeks ago, contemplates erecting a larger mill.

Norfolk—Ship-yards and Dry-dock.—J. P. Andre Mottu resigned the presidency of the proposed Norfolk Shipbuilding & Dry-Dock Co. recently reported, his firm, Messrs. Mottu, de Witt & Co. having sold their third interest in the company's charter to J. A. C. Groner. Therefore, it is to J. A. C. Groner that all correspondence regarding the new enterprise should be addressed, as was mentioned in this department several weeks ago.

Norfolk—Dry-docks and Marine Railway.—Mottu, de Witt & Co. are interested in establishing an extensive plant for the building of ships, including a dry-dock, marine railway and other necessary departments. The firm has been working on the plans of this industry for some time.

Norfolk—Optical Company.—Chartered: The George D. Levy Optical Co., with capital stock of \$5000, by G. D. Levy and others.

Norfolk—Chartered: The C. L. Allen Co., for manufacture of ice cream, etc., by C. L. Allen, J. M. Allen, R. P. Davis and others; capital stock \$25,000.

Norfolk—Abattoir, etc.—The Belt Line Union Stock Yards Co. has been incorporated, with capital stock of not less than \$75,000, nor more than \$200,000, for the establishment of an abattoir, cold-storage plant, etc. E. Baker Evans of Washington, D. C., is president, and W. D. Pender of Norfolk, vice-president and general counsel.

Owens—Fertilizer Factory.—The Marsh-Woodhull Company has been incorporated, with capital stock of \$20,000, for manufacturing fertilizers, by J. W. Tankard, J. E. Marsh, C. C. Woodhull and others.

Radford Furnace—Iron Company.—The Rennie Iron Co. has been incorporated, with capital stock of \$25,000, by W. Campbell, P. S. Campbell of Youngstown, Ohio; O. W. Putney, J. W. Leach of Radford Furnace and others.

Richmond—Clothing Company.—Chartered: The Gans-Rady Co., to conduct general clothing business, by J. Gans and others; capital stock \$50,000.

Richmond—Leather Factory.—Chartered: The Chaikley Leather Co., for manufacturing leather, by E. H. Chaikley, S. H. Chaikley, W. Talley and others; capital stock \$5000.

Richmond.—Chartered: The American Ether Co., with capital stock of \$100,000, by J. B. Purcell and others.

WEST VIRGINIA.

Belva—Lumber Mill.—The Ohio Lumber & Coopers Co. has been incorporated by L. W. Buzzard and others, all of Toledo, Ohio; authorized capital \$20,000.

Charleston—Gas-appliance Factory.—Henry C. Balcom, C. T. Thayer, C. F. Hathaway, Chas. H. Finot and F. K. Jones, all of New York, N. Y., have incorporated the Standard Carbide Gas Co., with authorized capital of \$5,000,000, to manufacture carbide gas appliances. C. M. Hathaway & Co., No. 19 Park Row, New York, are the company's attorneys.

Charleston—Coal Mines.—The Falls Colliery Co., to open coal mines, has been incorporated by Dr. L. Pritchard of Charleston, H. A. Robson of Cotton Hill, W. S. Ward of Eagle, J. W. Staughan of Anstead and others; authorized capital \$100,000.

Cornwallis—Oil Wells.—The Carr Oil Co. has been incorporated, with capital stock of \$5,000,000, by A. S. Carr, G. W. Bremer, C. E. Morris and others of Wheeling.

Fairmont—Coal Mines.—The Ely Mining Co. has been incorporated, with capital stock of \$100,000, by John O. McDonald, Frederick T. Martin, Anthony J. Ruddy and others.

Hinton—Drug Company.—The Hinton Drug Co. has been incorporated, with authorized capital of \$50,000, by O. O. Cooper, Geo. S. Sussanberry, J. G. Haley and others.

Huntington—Glass Factory.—Anton Zahnman of Cumberland, Md., has purchased the plant of the Huntington Glass Co. at Central City, and will operate same, manufacturing bottles.

Mannington—Glass Works.—The Mannington Glass Works has been incorporated, with capital stock of \$100,000, by J. M. Teckrick, E. J. Thomas, M. F. Hamilton and others.

Morgantown—Pumping Station.—The Standard Oil Co., main office in New York, is making additions to its pumping plant at Morgantown; improvements consist of seven new tanks at a cost of about \$100,000, which will increase to forty tanks, with capacity of 1,000,000 barrels; new machinery is also being installed and other improvements made.

Parkersburg—Lumber Company.—The Holland Lumber Co. has been incorporated, with authorized capital of \$5,000,000, by H. S. McFall and others of Brooklyn, Ohio.

Sistersville—Oil Wells.—H. B. Zahnizer of Pittsburgh, Pa., and others have incorporated the Liberty Oil & Gas Co., with authorized capital of \$150,000; company's property is in Tyler and Pleasant counties, most of which is developed, and has fifty-three producing wells with capacity of 135 barrels per day. The undeveloped portion comprises about 250 acres.

Weston—Oil and Gas Lands.—The Keener's Oil, Natural Gas & Fuel Co. has been incorporated, with capital stock of \$1,000,000, by W. W. Keener, J. F. Keener, G. P. Keener, all of Morgantown, and others.

Wheeling—Tube Plant.—It is reported that the Wheeling Iron & Steel Co. contemplates the establishment of tube works, either at Benwood or Wheeling. C. Russell Hubbard, president, may be addressed.

Williamstown—Bridge.—The Ohio River Bridge & Ferry Co. has been incorporated for constructing a bridge across the Ohio river between Williamstown and Marietta, Ohio; incorporators, J. Ed Mendel, William M. List of Wheeling, Martin F. Noll of Marietta, Ohio, and others.

BURNED.

Augusta, Ga.—North Augusta Milling Co.'s flour mill.

Baltimore, Md.—Baltimore Chrome Works; estimated loss \$100,000.

Belair, Md.—Wilkinson H. Brevard & Sons' cannery; estimated loss \$60,000.

Brent, Ga.—Andrews & Scott's cotton gin; estimated loss \$25,000.

Lear, Md.—Sylvester Hare's saw-mill; loss \$20,000.

Lynchburg, Va.—H. Evans & Bro.'s tobacco factory.

Murfreesboro, Tenn.—J. R. Hale & Son's warehouse.

Murfreesboro, Tenn.—W. B. Earthman & Co.'s lumber mills.

Pocomoke City, Md.—Schoolfield & Barnes' saw and planing mills and woodworking factory; estimated loss \$30,000.

Texarkana, Ark.—Little Rock Cooperage Co.'s dry-kiln; estimated loss \$15,000.

BUILDING NOTES.

Abilene, Texas—Hospital.—R. W. Finley, Austin, Texas, will receive sealed bids until September 1 for erection of an asylum near Abilene, plans and specifications of which may be seen at office J. L. O'Connor, architect, Austin. Certified check for 2 per cent. of bid required. Bond required and usual rights reserved.

Atlanta, Ga.—Hotel.—Albert Gelders has leased the Fitten building, and will remodel it to a hotel.

Baltimore, Md.—Church.—Faith Evangelical Lutheran Church will erect a \$10,000 addition after plans now preparing by Paul Emmart, 209 Park avenue.

Baltimore, Md.—Hotel.—The Howard Park Improvement Co. is being formed for the erection of a three-story hotel at Howard Park 275x140 feet, for which plans have been prepared by Hodges & Leach.

Bristol, Tenn.—College.—McPherson &

Melling has received contract to build \$10,000 college structure.

Catonsville, Md.—Dwelling.—David E. Evans is having plans made for a \$20,000 residence.

Charleston, W. Va.—Depot and Warehouse.—The Kanawha & Michigan Railway Co., W. G. Christmas, superintendent, will erect freight depot, as lately reported, and warehouse; building to be of stone and brick foundation, 300x40 feet, with all modern improvements.

Chattanooga, Tenn.—Hotel.—J. A. Patten and J. E. Annis, proprietors of the Commercial Hotel, 734 Georgia avenue, will enlarge and remodel their building, erecting a brick addition.

Dinwiddie, Va.—Building.—The supervisors of Dinwiddie county have awarded contract to the B. F. Smith Fireproof Construction Co. of Washington, D. C., for building a fireproof record building to cost \$4150, after plans by B. F. Smith.

El Paso, Texas—Masonic Temple.—El Paso Blue Lodge, A. F. and A. M., has awarded contract for erection of its three-story building to Penharwood & McClimon of Indianapolis, Ind., at \$31,463, and for the heating and plumbing to R. D. Richey at \$4500. Thomas A. Winterrowd of Indianapolis, Ind., prepared the plans.

Fitzgerald, Ga.—Natorium.—E. L. Todd, J. M. Richens and A. Pierucci have incorporated the Fitzgerald Natatorium Co., with capital stock of \$2000, for establishment of a natatorium, etc.

Kansas City, Mo.—Business Building.—F. G. Bonfils of Denver, Col., will erect in Kansas City a \$20,000 48x120-foot three-story building; plans by George Matthews.

Kansas City, Mo.—Warehouse.—The Robert Keith Furniture & Carpet Co. will build a warehouse 100x150 feet, five stories high.

Knoxville, Tenn.—Cottages.—The Brookside Cotton Mills has let contract to A. J. Cloyd for erection of fifteen cottages to cost \$15,000.

Louisville, Ky.—Residence.—J. G. Gaffney has made plans for residence for J. H. Reibling.

Louisville, Ky.—Residence.—Chas. D. Meyer has made plans for residence for the Rodemaker estate.

Louisville, Ky.—Residence.—Kenneth McDonald has made plans for residence for the H. Weissinger Tobacco Co.

Louisville, Ky.—Warehouse.—Dodd & Cobb are asking for bids on the six-story brick warehouse of W. B. Belknap & Co., 85x185 feet.

Louisville, Ky.—Insane Asylum.—H. P. McDonald has made plans for an addition to the Lakeland Insane Asylum.

Montgomery, Ala.—Office and Warehouse Building.—The office and warehouse building reported lately to be erected by J. C. Haas & Co. will be two stories, 70x75 feet, and cost \$12,000.

Morgantown, W. Va.—University Buildings.—Caldwell & Drake of Parkersburg have contract at about \$100,000 for building armory, library and mechanical building at the West Virginia University.

Mt. Airy, Md.—Hotel.—Mercer Bros. of Frederick county have purchased the Ridgeville Hotel, near Mt. Airy, for \$5000, and will improve same.

Mt. Airy, Md.—Hotel.—C. A. Smith will build a hotel.

Natchez, Miss.—Church.—Fred J. V. Le Cand, chairman committee, will receive bids until August 15 for erection and completion of an annex to the Presbyterian church. Plans and specifications are on file. Usual rights reserved.

Petersburg, Va.—Hotel.—G. W. Clayton of New York and others have organized a stock company for the erection of a hotel.

Shreveport, La.—Cotton-mill Building.—Hargrove Cotton Mills calls again for bids on the erection of factory building after plans and specifications now in hand; bids to be opened September 1. Address Leon M. Carter, president.

Spottsylvania, Va.—Courthouse.—Supervisors awarded contract to the B. F. Smith Fireproof Construction Co. of Washington, D. C., at \$7900 for the rehabilitation of the county courthouse, adding fireproof record-room and metal furniture. B. F. Smith furnished plans.

Tulsa, Ala. (not a postoffice).—Houses.—The Moss Mining Co. of Birmingham, Ala., will build 100 houses at Tulsa.

Warren, Ark.—School Building.—E. L. Koonce of Fordyce has received contract at \$825 for erection of city school building at Warren.

Washington, D. C.—Buildings.—N. T. Hal-

ler is preparing plans for ten buildings to cost \$65,000. G. G. Cornwell and L. S. Fristoe will erect a five-story apartment-house to cost \$50,000; George S. Cooper, architect.

Williamsburg, Va.—Store Building and Tenements.—C. E. Dean will expend \$50,000 in erection of store building and tenements.

RAILROAD CONSTRUCTION.

Railways.

Arlington, Ga.—It is stated that surveys are being completed for an extension of the Central of Georgia system from Arlington to Dawson, a distance of thirty miles. John M. Egan at Savannah is president of the company.

Augusta, Ga.—The Augusta Railway & Electric Co., it is understood, has ordered enough steel rails to lay about ten miles of extension in the city and suburbs. The extension will be completed by January 1. D. B. Dyer is president of the company.

Beaumont, Texas.—It is stated that the Gulf, Colorado & Santa Fe Company is making surveys for a further extension of the Conroe branch from Rayburn to a connection with the Gulf, Beaumont & Kansas City. The estimated length is sixty miles.

Beaumont, Texas.—The Beaumont Wharf & Terminal Co. has made an application to the State authorities for permission to issue \$600,000 in bonds for terminals to be constructed in Beaumont. W. S. Davidson is president of the company.

Bristol, Tenn.—A report is current that a company is to be formed to build a line from Bristol to Stuart, Va. The road would connect two sections of the Southern system if constructed.

Brooksville, Ky.—An official of the Cincinnati & Licking River Railroad Co. states that contracts will soon be let for the thirty miles of extension between Brooksville and Johnson Junction, which has been surveyed. The work will include a tunnel 500 feet long at Brooksville. Y. Alexander at Brooksville is general manager.

Camden, Texas.—W. T. Carter, one of the officials of the Moscow, Camden & San Augustine Railroad Co., writes the Manufacturers' Record that about four miles of extension will be built this year, and that construction work has already begun.

Damascus, Va.—The road to be built into Shady Valley, Tenn., as an extension of the Virginia-Tennessee Railroad is being promoted by the Beaver Dam Railway Co., which includes D. E. Butler and R. E. Donnelly.

Denison, Texas.—The plan to build a railroad between Denison and Sherman, Texas, a distance of twelve miles, has been revived by J. B. Crearar, F. H. Fitch and others of Denison, who have secured the charter for the purpose.

Elkton, Md.—The Elkton, Cherry Hill & Chesapeake City Railway Co. has secured a franchise to construct its proposed line between the towns mentioned. It is understood that work is to begin immediately. Messrs. Deegan & Co., Drexel Building, Philadelphia, are among the principal promoters of the enterprise.

Fort Smith, Ark.—The Hillsboro & Mexico Railroad Co. has been formed to promote a line from Fort Smith to a connection with the Southern Pacific system at Spofford Junction, Texas.

Fort Worth, Texas.—Surveys are now being made in the interest of the proposed electric line between Fort Worth and Dallas. Frank C. Hand of New York is engineer in charge. J. T. Voss, at Fort Worth, is one of the promoters of the enterprise.

Greenville, S. C.—Ties are now being received for the electric railroad, and it is understood that the necessary rails will be sent to Greenville by September 1. The boiler plant at the power-house is practically completed.

Hawkinsville, Ga.—It is reported that a syndicate of Macon capitalists are interested in the plan to build a railroad from Hawkinsville to Thomasville by the way of Cordele, Ga., a distance of about 100 miles.

Jackson, Miss.—The question of building a railroad along the Pearl river valley in the interest of the Illinois Central system is being agitated by local parties, and a company may be formed to take up the project. The proposed route is through Rankin and adjacent counties to Columbus, Miss.

Laurel, Texas.—The Sabine Tram Co. is completing its lumber road from Laurel to Dewey, a distance of nine miles. The necessary bridges and rails have been secured for

the extension. Blutt Smith at Laurel is president of the company.

Maryville, Tenn.—It is stated that contracts are to be awarded immediately for the extension of the Knoxville & Augusta Railway from Maryville, Tenn., to Gamble's Store. The extension will be nine miles long, and the estimated cost is \$50,000.

Memphis, Tenn.—The city authorities are considering the question of obliging the railroad companies entering the city to elevate their tracks along the river front. Hon. A. Williams, mayor, may be addressed.

Monterey, Tenn.—The latest report concerning the Nashville & Knoxville extension up Laurel creek valley is to the effect that work will begin immediately, and that all arrangements have been completed. R. J. Moscrip at Cookeville, Tenn., is engineer.

Nashville, Tenn.—The Tennessee Central Railroad Co. has surveyed a branch line about nine miles long to the property of the Campbell Coal Co., near Woody, Tenn. It is understood that this branch is to be built immediately. Jere Baxter, at Nashville, is president of the railroad company.

Portsmouth, Va.—The River Front Railway Co., recently organized, it is understood, proposes building an electric line into the Dismal Swamp, terminating at Gilmer-ton. The railway company has given a deed of trust to the Colonial Trust Co. of Philadelphia to secure a bond issue of \$2,000,000 to finance the undertaking.

Searcy, Ark.—It is stated that the Searcy & Des Arc Railway Co. has determined to build an extension from Des Arc to Hazen, a distance of fourteen miles, in the near future. J. T. Hicks, at Searcy, is superintendent.

Selma, Ala.—Mr. F. M. Abbott, president of the Birmingham, Selma & New Orleans Railroad Co., writes the Manufacturers' Record that the company is making the extension recently referred to with its own force. The extension will be about fifteen miles in length and will be completed about October 1.

Snow Hill, N. C.—J. H. Macleary, general manager of the Great Eastern Railway Co., writes the Manufacturers' Record that construction work has begun upon its line between Fremont and Snow Hill, a distance of twenty-one miles. C. E. Coon is contractor. Mr. Macleary states that it is intended to complete the entire line, 160 miles, within the next eighteen months.

Strawn, Texas.—It is stated that work is to begin immediately upon the San Antonio, Llano & Northern Railroad, and that the necessary rails and other material to complete the first ten miles have been secured.

Texarkana, Ark.—It is reported that the necessary financial arrangements have been completed to build the proposed extension of the Arkansas & Choctaw Railroad from Little river to Wichita Falls, Texas. Surveys have been completed between the points mentioned. F. W. Vallant of Texarkana is chief engineer.

Union, S. C.—It is reported that a company is being formed to build an electric line from Union to several cotton mills in the vicinity. It will be about seven miles in length. T. C. Duncan at Union is one of the promoters.

Wheeling, W. Va.—The last report concerning the Pittsburgh, Connellsville & Wheeling Railroad is to the effect that contracts for grading twenty miles of this line from Wheeling to the Pennsylvania State line have been awarded in four sections. It is proposed to use 85-pound rails over the entire distance, which is seventy-two miles. Edgar A. Holmes, at Moundsville, W. Va., is general manager, and John T. Wilson, engineer.

Wheeling, W. Va.—The Northern Ohio Valley Railway Co. has secured a franchise from the Ohio county commissioners to build its proposed electric road between Wheeling and Wellsburg, a distance of fifteen miles. Among those interested is John Arbenz of Wheeling.

Wheeling, W. Va.—The Northern Ohio Valley Railway, it is reported, will begin work on its electric line in the near future. The road is to extend from Wheeling to Wellsburg, a distance of about seventeen miles. George M. Snook and John Welty are directors in the company.

Street Railways.

Chattanooga, Tenn.—It is stated that the Chattanooga Electric Railway Co. has finally decided to extend its line to Sherman Heights, as originally intended. D. W. Warner is president of the company.

Montgomery, Ala.—Francis C. Ayers is interested in a proposed electric line in the suburbs of Montgomery.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Air Compressor.—Low Moor Iron Co., Low Moor, Va., wants a second-hand air compressor capable of running two or three drills.

Baskets.—Florida State Ginning Co., S. B. Thompson, manager, Lake City, Fla., wants to buy baskets made of wire or split woods for use in handling lint Sea Island cotton.

Beltting.—Rutherfordton Manufacturing Co., Rutherfordton, N. C., wants to buy beltting for flour mill.

Beltting.—See "Pulley."

Boilers and Engines.—See "Cotton Mill."

Boilers and Engines.—Texas Coal & Fuel Co., L. M. Fouts, president, Weatherford, Texas, is in the market for two horizontal tubular boilers, with Worthington feed pump, complete with all modern appliances, tested when complete to hydrostatic pressure of 150 pounds per square inch; also for a pair of direct-motion hoisting engines, shaft 240 feet deep, maximum load 2000 pounds, 14x30 cylinders, etc., complete. Specifications and further particulars can be obtained on application.

Boilers, etc.—Nat F. Dorch & Sons, Nashville, Tenn., will later on be in the market for boilers, etc.

Boiler Equipment.—Thomas Taylor, Jr., Box 23, Florence, S. C., wants a 100 or 150-horse-power second-hand coil heater.

Brewery Machinery.—A. R. Humes, Rockwood, Tenn., wants to correspond with manufacturers of brewery machinery.

Bridge.—Proposals will be received until August 24 for the construction of an iron or steel bridge, 402 feet long, of two spans, each 150 feet long between centers of end piers, and 100 feet of pile approach, etc. Bidders must furnish plans and specifications. Address for further particulars E. G. Baldwin, chairman, Clarkston, Va.

Cement.—Sealed proposals will be received by Robert McGregor, captain engineers, United States Engineer Office, Little Rock, Ark., until August 22 for furnishing 5000 barrels American Portland cement. Information furnished on application.

Clock.—Fred W. Howard, 520 Gardner Building, Jacksonville, Fla., wants addresses of parties manufacturing watchman's clocks (Manning Maxwell).

Conveying Machinery.—W. B. W. Howe, C. E., Spartanburg, S. C., wants catalogues of platform package elevators.

Cotton Lapper.—Ensley-Pratt Iron Co., Birmingham, Ala., wants a cotton lapper and feeder or machine that will clean low-grade cotton and prepare it for mattresses.

Cotton Mill.—Louis H. Mason, 2231 Morris avenue, Birmingham, Ala., wants to correspond with manufacturers of cotton-mill machinery, dyeing machinery, knitting-mill machinery, engines, boilers, etc.

Cotton-mill Machinery.—J. P. Hornaday, chairman committee, Somerset, Ky., wants estimates on erecting cotton mill, giving capacity and cost of several sizes.

Dredging Machinery.—P. C. Kalloch, office Marine Hospital Service, Biloxi, Miss., will receive sealed proposals until August 21 to furnish dredging machinery for use of Marine Hospital Service at Gulf Quarantine Station. Schedules and further information may be obtained upon application. Usual rights reserved.

Dry-kiln.—See "Saw-mill Equipment."

Electric-light Plant.—H. A. Pearce, mayor, Dothan, Ala., wants proposals for material and construction of an electric-light plant of 1500 incandescent light capacity.

Electric-light Plant.—New Southern Hotel, F. A. Lincoln, manager, Chattanooga, Tenn., will be in the market for electric-light plant of 600 or 700 lights.

Elevators.—See "Conveying Machinery."

Files.—Geo. A. Griffin, Big Springs, Texas, wants prices per 1000, or in 10,000 lots, on files about one and one-quarter inches long, same width and thickness, edges and sides

to be smooth, cutting surface only on flat sides.

Heater.—See "Boiler Equipment."

Horn-goods Machinery.—W. Arnd of Warsaw, Russia, wants catalogues of machines for finishing combs, buttons and fancy goods made of horn.

Ice Plant.—J. A. Johnson, Owenton, Ky., wants prices on a three to five-ton ice plant.

Kettle.—F. S. Durand, No. 110 West Sixty-first street, New York city, wants to buy a second-hand steam-jacket kettle, such as is used by soap manufacturers, capable of standing ninety pounds steam pressure.

Knitting Mill.—See "Cotton Mill."

Levee Construction.—Chas. L. Potter, U. S. engineer office, Equitable Building, Memphis, Tenn., will receive sealed proposals until August 15 for levee construction in third district, improving Mississippi river, involving about 2,361,000 cubic yards of earthwork. Information furnished on application.

Lumbering Specialties.—See "Saw-mill Equipment."

Machine Tools.—O. R. Whitney, 39 Cortlandt street, New York city, wants a second-hand lathe, 25 to 30-inch swing, bed to be 18 or 20 feet, with countershaft and all accessories; must be screw-cutting lathe.

Mining Equipment.—Southern Brokerage Co., R. L. Daingerfield, manager, Birmingham, Ala., is in the market for a new or second-hand crusher to handle fifty tons of soft ore per day; also for a new or second-hand pair of rolls or other mill which will pulverize the ore after leaving the crusher.

Oil Mill.—R. M. Dulin, Bowling Green, S. C., wants to correspond with manufacturers of cottonseed-oil-mill machinery.

Pulley.—Blount & Ward, Greensboro, Ala., want a shaft pulley to go with a 96-inch driving wheel and some leather beltting.

Pulverizing Machinery.—See "Mining Equipment."

Road Improvement.—C. V. Taylor, C. M. Kesterson and J. H. Brown, turnpike commissioners for Hamblen county, Morristown, Tenn., will receive sealed proposals until August 18 at the First National Bank for grading forty miles of road and macadamizing twenty-five miles of road. Usual rights reserved. Certified check for \$250 must accompany each bid. Specifications and plans can be examined at office of E. C. Brown, county engineer.

Railway Equipment.—Miller Supply Co., J. C. Miller, president, Huntington, W. Va., wants fifteen or twenty miles of 35-pound relay rails.

Rubber-stamp Machinery.—Bradshaw & Dennis, Suffolk, Va., want addresses of manufacturers of machinery for making rubber stamps.

Saw-mill.—K. B. Simpson, Marietta, Ga., will be in the market for saw-mill machinery.

Saw-mill.—See "Woodworking Machinery."

Saw-mill Equipment.—Bradley Lumber Co., E. G. Bradley, secretary, Citronelle, Ala., is in the market for dry-kiln probably 15,000 feet capacity, sawdust conveyor, slab conveyor, lumber cars, railway track for lumber cars, edger to cut three inches thick, shafting, pulleys, belts, etc.

Scales.—Gastonia Oil Mills, Gastonia, N. C., is in the market for platform, wagon and railroad track scales.

Shoe Machinery.—J. H. Williams, Laprelle Williams Shoe Co., St. Louis, Mo., will, within the next ninety days, receive bids for shoe machinery.

Soap-factory Equipment.—See "Kettle."

Street Paving.—Bids will be received by W. W. Johnson, city clerk, San Antonio, Texas, until September 3 for construction of all or any part (not less than a whole street) of about 101,000 square yards of street pavement complete. For specifications, form of proposal and contract and other information address E. G. Trueheart, city engineer.

Sumac and Bone-mill Machinery.—Corbett Mill Supply Co., Washington, D. C., wants prices and catalogues on sumac and bone-mill machinery.

Tank.—See "Kettle."

Telephone Equipment.—Falls Church Telephone & Telegraph Co., Falls Church, Va., will need crossarms, pins, crossarm braces, etc., for 100 miles of line.

Telephone Equipment.—Williamston Telephone Co., Williamston, N. C., will want later on forty or fifty miles of line, thirty phones, etc. Address W. C. Manning.

Textile Machinery.—See "Cotton Lapper."

Turnstiles.—A. F. Moore, manager Valdosta Exposition Co., Valdosta, Ga., wants addresses of manufacturers of turnstiles.

Woodworking Factory.—J. H. Simmons, care of Austell Building, Atlanta, Ga.,

wants machinery for manufacturing coffins.

Woodworking Machinery.—Rutherfordton Manufacturing Co., Rutherfordton, N. C., wants to buy second-hand 24 or 30-inch resaw.

Woodworking Machinery.—R. B. Simpson, Marietta, Ga., will be in the market for chair and table machinery.

Woodworking Machinery.—Sumter Hardwood Co., Sumter, S. C., is in the market for two band saws, equipment for small band mill, lathes for turning handles and golf sticks, etc.

TRADE NOTES.

In Australia.—The town of Boulder, in the new gold fields of West Australia, was recently equipped by the B. F. Sturtevant Co. of Boston, Mass., with generating sets for lighting and power purposes and electric motors for operating hoists, etc., in the mines.

F. W. Barnacio, Patent Attorney.—F. W. Barnacio, the well-known patent attorney, who was located in Washington, D. C., for some years, has enlarged his offices in Baltimore, Md., which he has occupied for some weeks. The offices are Nos. 809 and 811 Equitable Building.

Southern Investment.—Bona fide enterprises desirous of obtaining additional capital or new companies of worth that are organizing are invited to correspond with R. E. Watson of Atlanta, Ga. (office in Austell Building). Mr. Watson organizes industrial companies, supplies capital for mining, manufacturing and other industrial concerns of sound foundation, and otherwise assists in promoting enterprises.

Maple Flooring.—The use of polished maple flooring in factories is increasing in the Southern States. The new cotton mills especially seem to be assured of the merit of maple flooring, and are ordering it laid in their buildings. The T. Wilce Co. of Twenty-second and Throop streets, Chicago, makes a specialty of manufacturing polished hardwood flooring, bored and end-matched, and its maple flooring is being ordered freely for Southern mills. Recent shipments went to Greenville, S. C.; Laurens, S. C., and Anderson, S. C. Builders, whether owners or contractors, of new structures are invited to correspond with the Wilce Company concerning its maple flooring; estimates can be obtained readily.

Everything That Is Metal.—The phrase "everything that is metal" includes a line of machinery and supplies that contains about everything needed in factories of every description. Not only factories, but also other establishments find use for machinery and supplies of a mechanical nature. The Ensley-Pratt Iron Co. of 2017 First avenue, Birmingham, Ala., buys and sells everything that is metal, and invites correspondence from buyers looking for any particular article in its line. The company has many second-hand machinery bargains on its list. Boilers, engines, ice plants, railway equipments, miners' and railways' supplies, etc., may be seen mentioned in the Ensley-Pratt Iron Co.'s lists.

General Machinist.—The constant demand for machinery and repairs to equipments keeps many machine shops employed in this country. Such establishments usually have a most complete equipment because of the extensive scope of the work they are constantly undertaking. Harvey G. Turley of 214 Locust street, St. Louis, Mo., operates one of these complete plants, his establishment being known as the "Central Machine Shop." Mr. Turley undertakes general machinists' works, making a specialty of the repairing of printing presses and book-blinders' machinery. Gear-cutting is another specialty of this shop, and new machinery in this line has just been added; it includes modern gear and rack-cutting machinery for cutting all sizes up to fifty-two inches diameter.

Rock Drilling by Hand Power.—Miners, quarrymen and contractors are constantly finding use for a hand-power rock drill. The use of such a machine is on the increase, an efficient apparatus having been introduced by the Thornton N. Motley Co. of 43 John street, New York. Many prominent contractors and railways in this and foreign countries have purchased the company's drill recently. The drill is known as the "Jackson Hand Power Rock Drill," and it is simple, durable, efficient, economical. Over 200 of these drills are in practical operation in this country, Canada and Mexico. Recent orders came from Bogota, Columbia; Buffalo, N. Y.; Progresso, Mexico; Santiago, Cuba; Thomas, W. Va.; Brussels, Belgium; Tegul-

cigalpa, Honduras, C. A.; Paris, France; Baltimore, Md.; New York; Dayton, Tenn.; Perth, W. Aus., and from a New York exporting firm for shipment to Germany. The Jackson drill's excellent record in the two years it has been on the market speaks volumes for the satisfactory service it renders buyers.

Steel Tanks and Other Specialties.—The introduction of steel tanks for various purposes has resulted in a constantly increasing usage of receptacles and conveyances of that nature. Galvanized steel tanks have been made by the Kelly Foundry & Machine Co. of 54 Pearl street, Goshen, Ind., for some ten years, and their present popularity in all the States of this country and in many foreign countries is strong evidence of the merit these goods have. Besides the Goshen galvanized steel stock-watering and reservoir tanks, the Kelly foundry builds wagon tanks, tanks for hauling liquid manure, for hauling water to thrasher engines, for hauling whey from creameries and for many other purposes. Tanks built to specifications when customers desire it or the particular use intended makes it necessary. The Goshen low-wagon wheels is a popular product of the Kelly Company, being sold in all parts of the United States. E. B. Hollinshead of Oaklyn, N. J., is State agent in New Jersey and is meeting with continued success. Possible buyers of any of the specialties mentioned are advised to obtain Kelly estimates before placing their orders.

Progress at Cedartown, Ga.—Mr. Paul D. Baugh, son of Daniel Baugh of Philadelphia, has been living in Cedartown, Ga., for the last year, having purchased a very handsome residence property there. Mr. Baugh's interest in the operations of the Cedartown Company and the Cedartown Cotton Co., of which his father is president and the largest stockholder, has induced him to settle permanently in the town. Another mill is about to be built that will be a combination knitting and spinning mill. This will be equipped to make about 600 dozen a day and spin its own yarns. All cottages required for the operatives will be built in connection, and in addition to the plans that are now given to the public there are numerous features which have not yet been perfected which will make this one of the most complete plants of the kind in the South or North. The organization of this mill and its establishment in Cedartown means a great deal to the town. This is the fifth cotton mill that has been built in Cedartown in the last four years, and with the combination of the iron interests now being rapidly developed by the Georgia & Alabama Coal & Iron Co., Cedartown takes a leading place among the mining and manufacturing towns of Georgia.

Protect Your Blow-off.—The Hartford Steam Boiler Inspection & Insurance Co. gives a summary of 383 boiler explosions for 1899, killing 298 persons and injuring 456. This summary does not pretend to include all the explosions of 1899; in fact, it is probable that only a fraction of these explosions are here represented. Many explosions occur that cannot be accounted for. The company's inspector's report also gives the whole number of defective blow-offs as 155, and of these, forty-eight were dangerous. This was about the average during the year. Now, it is fair to presume that some of these explosions might have been caused by blow-offs suddenly letting go or bursting. A number of persons have sustained injuries by the bursting of blow-off pipes, by the water being thrown backward from the rear wall through the furnace into the boiler-room. As the blow-off is the only connection to a boiler that cannot be examined except when the boiler is out of service, surely every precaution should be taken to keep it in good order. A trifling sum will protect it by the use of the "Mather Blow-off Pipe Protector." This is a cast-iron removable sleeve, which can be promptly removed at any time when the boiler is out of service and replaced, and being of cast iron, it is fair to presume it will have a long life, even in such an exposed position as that to the heated gas. The high evaporative efficiency of a blow-off pipe soon deposits a large amount of scale, which in itself makes it a dangerous factor in boiler practice. Address Edmund Mather of Harrisburg, Pa., for particulars of the device mentioned.

TRADE LITERATURE.

Granite Roofing.—Great care is bestowed upon the selection of a roofing when buildings are being constructed. There are many roofings on the markets, some having their specific use, others combining qualities that

fit them for use on any structure. The Eastern Granite Roofing Co. of 139 Eleventh street, Jersey City, N. J., manufactures a perfected granite roofing made with asphalt composition, and its qualities have made it largely used during the past sixteen years. It is claimed that this roofing is practically fireproof and waterproof; that it will not crack or run; that it is pliable, and therefore readily usable for laying on old shingles. Other merits of the perfected granite roofing may be obtained by addressing the company. Ask for booklet.

An interesting study in methods of publicity and promotion is presented by the progress of the B. F. Sturtevant Co. of Boston, Mass., during the past few years. This company, devoting itself principally to the manufacture of blowers, has gradually evolved many special types designed for specific uses. It has not been deemed sufficient to merely advertise these types, but exhaustive study has been made of the conditions and best methods of application, special treatises have been prepared upon these subjects, purely educational articles regarding them have appeared in the technical press, and special illustrated lectures have been delivered before technical schools and societies. Some of these lectures, devoid of all reference to the B. F. Sturtevant Co., have been published for free distribution with gratifying results. Among recent publications are lectures by Walter B. Snow of the engineering staff, entitled "The Influence of Mechanical Draft Upon the Ultimate Efficiency of Steam Boilers," "Mechanical Ventilation and Heating by a Forced Circulation of Warm Air" and "The Application of Mechanical Draft to Stationary Boilers." Any one of these publications will be sent upon request.

Atkins Always Ahead. Beginning in the days when railroads were few, when machinery was in a crude state, and when the timber interests of America were undeveloped, the Atkins saw factory has attained a prominence second to none in its branch of manufacture. From a small plant employing but a few men this establishment, by the industry and thorough knowledge of its founder, Mr. E. C. Atkins, has grown to immense proportions and acquired a high reputation for its saws which extends throughout the world. The policy of E. C. Atkins & Co., Incorporated, Indianapolis, Ind., has always been one of progression and aggression, and it has constantly added new goods to its line and increased facilities for manufacturing as its growing trade required. The Atkins exhibit at the Paris Exposition shows saws and saw tools in profusion, and a souvenir of that exhibit has been issued by the company. This souvenir takes the form of a booklet, which makes brief mention of the history of the firm and its plant, and of the different departments forming the complete plant. The picture of Mr. Atkins and the glimpses of portions of the extensive factory are photographic reproductions of a character we have never seen surpassed, and altogether this booklet is one of the handsomest ever issued by the machinery trades.

Incandescent Lamps.—The use of electricity for lighting purposes has extended since its introduction until now, and for several years past electric lighting is commonly met with in homes, business offices, manufacturing establishments and other buildings. The most common form of electric lighting is that which makes use of the incandescent lamp, and the utility of this form of lighting is constantly being impressed upon people. The manufacture of incandescent lamps is in itself an operation which requires perfect workmanship, materials and design in order that there may be produced a lamp that will furnish to the greatest degree entire satisfaction in service. Such a lamp is that which is manufactured by the General Electric Co. at its factories in Harrison, N. J. This company has just issued a handsomely-illustrated booklet telling of its many designs of lamps. This booklet has been prepared in the endeavor to include all information which will enable lamp buyers to intelligently select the lamp best suited to particular requirements. One section is devoted to the manufacture, selection and proper use of lamps, and will repay careful perusal. Other sections are devoted to the various types of standard, special and miniature lamps. Besides which there is some important data concerning lamps which will interest greatly buyers and users of lamps. Special lamps of any type can be made by the company, and it is prepared to furnish estimates on such work. The General Electric Co. carries large stocks for the convenience of patrons at its stores in Atlanta, Chicago, Denver, Boston, Cincinnati and San Francisco.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Southern Bank Clearings.

The report of bank clearings for the last week in July indicates that business is remarkably active in the Southern States. The group of Southern cities show a gain of 10 per cent. compared with the corresponding week of 1899. The average of all of the clearing-house cities of the United States shows a decrease of 9½ per cent. The Western group shows an increase of 11.8 per cent., which is the only one greater than the South.

New Corporations.

F. A. Thayer and others are organizing a bank at Oakland, Md.

W. P. Bender and others of Norfolk, Va., have organized the Virginia Security Co. in that city.

A new bank is organized at Benwood, W. Va., with \$25,000 capital stock, by Henry Riddell and others.

D. P. Hartley has been elected president of the First National Bank, recently organized at Batesburg, S. C.

The Business Men's Association of West Point, Va., is interested in a bank which may be opened in that town.

It is stated that the national bank organized at Fayetteville, W. Va., is ready to begin business. J. S. Hill is cashier.

H. L. Loudermilk and others are interested in the Bank of Maywood, recently organized at Maywood, Mo., with \$10,000 capital stock.

The Texarkana Loan & Trust Co., recently organized at Texarkana, Texas, has elected James T. Black, president; Henry A. Mann, vice-president, and Frank Quinn, secretary.

A dispatch from Augusta, Ga., is to the effect that the directors of the Equitable Building and Loan Association are considering the idea of changing the institution to a trust company. Joseph B. Cumming is president.

Edwin W. Robertson and William D. Melton of Columbia, S. C., are interested in a trust company being formed in that city to be entitled the Columbia Trust Co. It is to be capitalized at \$100,000, and will be the second corporation of this kind in the city.

New Securities.

The city of Montgomery, Ala., has sold its holdings of the South & North Railway bonds at 108. The amount sold was \$48,000.

C. R. Ashley, mayor, will receive bids until August 15 for the issue of \$25,000 worth of 5 per cent. improvement bonds of Valdosta, Ga.

W. M. Drennen, mayor, may be addressed relative to the issue of \$269,000 in 5 per cent. bonds to be issued by the city of Birmingham, Ala.

The Multivideo Land Co. of Baltimore has given a mortgage to the Fidelity & Deposit Co. to secure an issue of \$31,000 in 4 per cent. bonds.

The Norfolk Ice Co. of Norfolk, Va., has given a mortgage to the Citizens' Bank of Norfolk to secure an issue of \$300,000 in 6 per cent. bonds.

The State authorities have approved the proposed issue of \$150,000 in bonds of Dallas, Texas. The mayor may be addressed for further particulars.

Proposals will be received until August 10 for the issue of \$270,000 in 4 per cent. bonds of Norfolk, Va. H. S. Herman, city treasurer, may be addressed.

The Beaumont Wharf & Terminal Co. of Beaumont, Texas, has applied to the State authorities for permission to issue \$600,000 in bonds for improvements it contemplates making.

An election will be held at Floyd county, Georgia, in the near future to decide upon the question of issuing \$50,000 in bonds. The board of county commissioners may be addressed at Rome.

Dividends and Interest.

The Virginia Development Co. has declared a dividend of 10 per cent. on its preferred stock.

The Consolidated Coal, Iron & Land Co. has declared a dividend of 10 per cent. on its preferred stock.

The Norfolk & Western Railroad Co. announces a semi-annual dividend of 2 per cent. on its preferred stock.

Mr. J. E. Brading has been elected cashier of the Dominion National Bank of Bristol, Va.

Mr. Olin H. Landreth has resigned the professorship of engineering in Vanderbilt University to accept the chair of civil engineering in Union College, Schenectady, N. Y. The Catherine Wolfe fund at Union College supports a number of scholarships open to students from the South. Several of these are now vacant. They carry tuition, room rent and \$60 per annum during incumbency, which may be during the entire course of study in the classical, engineering or scientific departments of the institution.

Atlantic City Special to Run Every Week-Day via Pennsylvania Railroad.

The Pennsylvania Railroad Co. has arranged to run the "Atlantic City Special," the through fast express train between Washington, Baltimore and Atlantic City, every week-day during the coming season, instead of Saturdays and Mondays, as last year.

The train will be placed in service on June 29, and will consist of standard vestibule coaches and Pullman buffet parlor cars. It will leave Baltimore 2.10 P. M., running via the Delaware River Bridge Route, and arrive Atlantic City 5.30 P. M. Returning, it will leave Atlantic City at 2.30 P. M. and arrive Baltimore 5.55 P. M. The train will be continued in service until September 1.

The addition of this train will give the residents of Baltimore the best train service between those points and Atlantic City ever enjoyed.

Tickets from Philadelphia to New York on Sale at Pennsylvania Railroad Ticket Offices in Baltimore and Washington.

In order to accommodate persons holding thousand-mile tickets and other forms of transportation valid to Philadelphia, who may desire to check baggage through and reserve sleeping and parlor-car accommodations to New York, the Pennsylvania Railroad Co., beginning July 23, will place on sale at its ticket offices in Washington and Baltimore one-way tickets from Philadelphia to New York at rate of \$2.50. Agents in New York will also be instructed to sell similar tickets from New York to Philadelphia in connection with tickets from Philadelphia to points south or west thereof on Pennsylvania Railroad.

Reduced Rates to Chicago via Pennsylvania Railroad, Account G. A. R. Encampment.

On account of the Thirty-fourth Annual Encampment of the Grand Army of the Republic, to be held at Chicago, August 27-31, inclusive, the Pennsylvania Railroad Co. will sell excursion tickets from points on its line to Chicago at rate of single fare for the round trip.

Tickets will be sold on August 25, 26 and 27, good to return until August 31, inclusive; but by depositing ticket with joint agent at Chicago prior to noon of September 2, and the payment of fifty cents, return limit may be extended to September 30, inclusive.

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Last Summer Tour to the North—Tour to Canada via Pennsylvania Railroad.	
The last tour to the North for the summer of 1900 via the Pennsylvania Railroad to Canada and Northern New York will leave August 11. The places visited include Niagara Falls, Thousand Islands, Rapids of the St. Lawrence, Quebec, The Saguenay, Montreal, Au Sable Chasms, Lakes Champlain and George, and Saratoga, the trip occupying fifteen days; round-trip rate \$125.	
The tour will be in charge of one of the company's tourist agents, assisted by an experienced lady as chaperon, whose special charge will be unescorted ladies.	
The rate covers railway and boat fare for the entire round trip, parlor-car seats, meals en route, hotel entertainment, transfer charges and carriage hire.	
For detailed itinerary, tickets or any additional information, address tourist agent, Pennsylvania Railroad Co., 1196 Broadway, New York; 860 Fulton street, Brooklyn; 789 Broad street, Newark, N. J., or Geo. W. Boyd, assistant general passenger agent, Broad Street Station, Philadelphia.	